DEPARTMENT OF AGRICULTURE

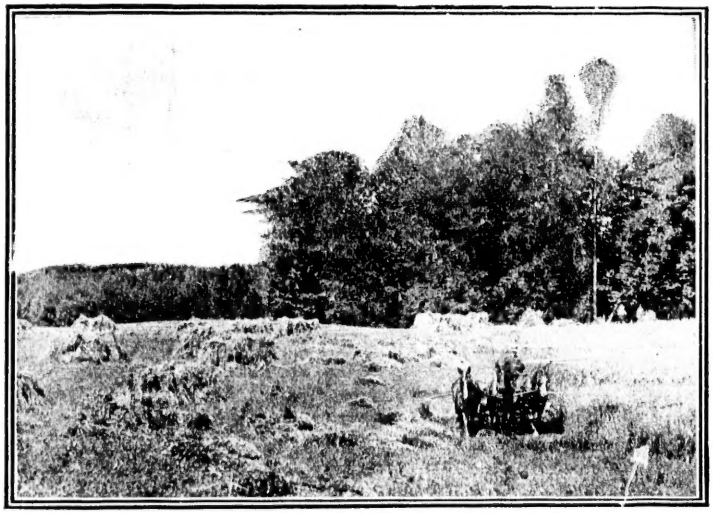
CENTRAL EXPERIMENTAL FARM

OTTAWA, CANADA

RESULTS OBTAINED IN 1899

FROM

Trial Plots of Grain, Fodder Corn, Field Roots and Potatoes



By Wm. SAUNDERS, LL.D.,
Director Experimental Farms

BULLETIN No. 34

DECEMBER, 1899

PUBLISHED BY DIRECTION OF THE HON. SYDNEY A. FISHER, MINISTER OF AGRICULTURE

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To the Honourable

The Minister of Agriculture.

SIR,—I beg to submit for your approval Bulletin No. 34 of the Experimental Farm series, prepared by myself. In this publication there are presented the results of a large number of experiments which have been conducted at all the experimental farms under your department during the season of 1899, with oats, barley, spring wheat, pease, Indian corn, turnips, mangels, carrots, sugar beets and potatoes in uniform plots. The average results are also given of five years' tests on such plots with varieties of oats, barley, spring wheat and potatoes, four and five years' experience with Indian corn, four years' with plots of pease, turnips, mangels and carrots and three years' experience with sugar beets.

This work of testing varieties is being conducted with the object of gaining information as to their relative productiveness and earliness in ripening. The results show wide variations in the weight of the crops grown and indicate the importance of the exercise of care in the choice of varieties of seed for sowing. It is hoped that the results presented, covering the experience gained under some of the most important climatic variations found in the Dominion will prove useful to farmers in every part of Canada.

I have the honour to be,

Your obedient servant,

WM. SAUNDERS,

Director Experimental Farms.

OTTAWA, 29th December, 1899.

RESULTS OBTAINED IN 1899

FROM TRIAL PLOTS OF

GRAIN, FODDER CORN, FIELD ROOTS AND POTATOES

By William Saunders, LL.D., F.R.S.C., F.L.S., &c.

Director Experimental Farms.

In this bulletin particulars are given of the results obtained from the uniform trial plots of grain, fodder corn, field roots and potatoes at each of the Dominion Experimental Farms during the year 1899, also the average results had during a series of years. While the crops grown on these plots during the season of 1898 were well above the average those of 1899 have been still more satisfactory. In grain the increase has been most marked. In oats the average yield of all the varieties tested at all the experimental farms has exceeded that of the previous year by 11 bushels 1 lb. per acre, two rowed barley by 7 bush. 17 lbs., six-rowed barley by 3 bush. 47 lbs. and spring wheat by 3 bush. 50 lbs. per acre. The excellent average crops of turnips, mangels and carrots had in 1898 were well maintained in 1899, there was an increase in the yield of potatoes at Ottawa and Nappan, but a decrease at Brandon, Indian Head and Agassiz. The season throughout the Dominion was less favourable for Indian corn and in this crop there was a falling off in yield.

In arranging these experiments the plan carried out during the past four years has been continued. The same varieties have been sown at each of the Experimental Farms, the land chosen for the plots has been as nearly uniform in character as could be had and was brought into a good condition of tilth. The seed has been sown early and has been well cleaned and screened before sowing so as to separate the smaller kernels, leaving only the plump and well-matured grain for seed. As far as practicable all the varieties of the same cereal have been sown on the same day or at most within two or three days so as to give to all an even start. Many new varieties of cereals which have been produced on the experimental farms by cross-fertilizing during the past ten years are included in these tests, a list of the names of these will be found in each case in the paragraph preceding the table of returns.

In presenting the information gained by the experience of 1899 the weight of crop obtained in each case is given and the varieties are placed in the order of their productiveness at the Central Experimental Farm at Ottawa. The number of days required for each sort from sowing to ripening is also added, and thus their relative earliness is shown.

In comparing the results of one single year with another the relative positions occupied by each variety in point of productiveness will often vary, arising from lack of uniformity in the soil, and other causes; but the average experience for four and five years given in the latter part of this bulletin affords satisfactory evidence bearing on the relative productiveness of each sort. The reader is referred to the summary at the end of the bulletin for particulars on this point.

By the issue of this bulletin early in the season, the information obtained is placed promptly in the hands of the farmers of Canada who are thus advised as to the results which have been had before making their selection of seed for sowing during the coming year.

TRIAL PLOTS OF OATS.

Seventy-one varieties of oats have been tested during the season of 1899. These include thirteen cross-bred sorts which have been produced at the Experimental Farms, namely, Olive, Oxford, Cromwell, Miller, Kendal, Medal, Milford, Russell, Master, Brandon, Holland, King and Pense. The size of the plots on which these oats were sown was one fortieth of an acre each at Ottawa, Ont., Nappan, N.S., and Agassiz, B.C., and one twentieth of an acre each at Brandon, Man., and Indian Head, N.W.T. The quantity of seed sown of each variety was in the proportion of two bushels per acre, and the dates of sowing were as follows:—At Ottawa, May 2; Nappan, May 8 and 9; Brandon, May 10; Indian Head, May 12; and at Agassiz, April 20 to 24.

Particulars as to the character of the land in each case, also the preparation and treatment it has had, will be found in the Annual Report of the Experimental Farms for 1899.

UNIFORM TEST PLOTS OF OATS.

Number.	Name of Variety.	Yield per Acre at the several Experimental Farms, Season of 1899.												Number of Days from Sowing to Harvesting.					
		Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.		Average of all Farms.		Ottawa, Ont.	Nappan, N.S.	Brandon, Man.	Indian Head, N.W.T.	Agassiz, B.C.	Average of all Farms.
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Days.	Days.	Days.	Days.	Days.	Days.
1	Thousand Dollar	74	4	81	6	78	8	64	4	62	32	72	4	94	112	98	105	119	105⅝
2	Golden Giant	68	8	81	6	89	4	66	16	76	16	76	10	101	123	113	119	125	116¼
3	Holstein Prolific	67	22	82	12	92	2	97	2	73	18	82	17	97	117	104	110	121	109¼
4	Poland	67	2	76	16	105	20	86	16	58	6	78	25	94	106	97	102	120	103¾
5	New Zealand	66	16	91	26	83	28	95	10	83	4	84	3	105	119	115	120	113	114⅝
6	Banner	65	30	87	6	110	10	95	30	67	12	85	11	97	114	106	111	119	109⅝
7	American Triumph	65	30	74	4	93	8	93	18	61	16	77	22	97	119	104	110	118	109⅝
8	Danish Island	65	30	89	14	86	26	91	26	73	28	81	18	95	118	104	111	121	109⅝
9	American Beauty	64	24	89	14	108	28	92	32	71	16	85	15	97	117	106	111	117	109⅜
10	Columbus	64	24	81	6	88	28	88	28	65	10	77	26	95	113	100	111	120	107¼
11	White Giant	64	24	89	14	86	16	68	28	70	10	74	32	97	118	100	111	119	109
12	Prolific Blk. Tartarian	61	26	82	12	80	29	69	14	78	2	74	15	99	112	110	120	125	113¼
13	Mennonite	61	6	91	26	83	18	71	26	64	4	74	16	97	114	101	105	116	106⅜
14	Abyssinia	60	..	91	26	90	10	71	6	75	33	77	28	97	113	106	111	126	110⅜
15	Golden Tartarian	60	..	76	16	90	20	72	12	76	16	75	6	99	123	110	119	117	113⅜
16	Oderbruch	59	14	98	28	90	10	64	4	67	2	75	32	97	114	106	112	117	109¼
17	Joanette	59	14	71	26	75	10	91	6	48	18	69	8	99	115	104	112	123	110⅜
18	Lincoln	58	28	92	32	92	32	81	26	65	10	78	12	97	113	105	111	117	108⅜
19	Olive	58	8	89	14	72	2	77	2	63	28	72	4	98	116	108	119	124	113
20	Bavarian	57	22	75	10	98	18	96	16	62	32	78	6	97	114	104	111	118	108¼
21	Winter Grey	57	2	64	24	91	6	80	20	67	22	72	8	93	115	97	102	121	105⅜
22	Black Tartarian Imported 1899	55	10	94	4	82	32	88	28	78	28	80	..	99	116	110	119	110	110¼
23	Wallis	54	..	94	32	84	14	78	28	67	32	76	1	94	113	104	111	121	108⅜
24	Improved Ligowo Imported 1899	52	32	83	18	100	20	55	10	69	24	72	16	96	118	106	110	111	108½
25	Improved Ligowo, Home Grown	52	12	76	16	84	24	64	24	58	6	67	9	96	119	100	102	123	108
26	Oxford	52	12	74	4	79	4	74	4	72	2	70	12	97	118	106	119	118	111⅜
27	Wide Awake	52	12	90	20	103	28	90	..	60	30	79	18	97	113	102	110	125	109⅜
28	Early Maine	51	26	83	18	107	22	81	26	70	20	79	2	99	118	105	113	121	111¼
29	Victoria Prize	51	6	80	..	56	26	87	22	58	16	66	27	94	113	92	102	123	104⅜
30	Cromwell	51	6	69	14	72	12	70	20	60	20	64	28	98	116	104	119	124	112¼
31	Early Archangel	51	6	77	22	98	28	87	2	57	2	74	12	94	113	104	111	120	108⅜
32	White Russian	50	20	94	4	79	4	90	..	62	22	75	10	97	114	108	105	119	108⅜
33	Early Golden Prolific	50	20	94	4	86	36	87	2	61	6	76	..	97	114	104	111	125	110¼
34	Early Gothland	50	20	83	18	93	18	78	28	65	20	74	14	97	114	103	119	117	110
35	Improved American	49	14	81	6	86	16	85	30	64	24	73	18	97	118	100	113	126	110¾
36	California Prol. Blk. Imported 1899	49	14	104	24	76	6	78	8	91	6	79	32	97	113	110	119	116	111
37	Newmarket	49	14	81	6	82	32	83	8	61	6	72	20	97	116	100	110	124	109⅜
38	Hazlett's Seizure	48	8	74	4	106	16	60	..	60	10	69	28	97	114	104	105	119	107⅜
39	Golden Beauty	48	8	81	6	102	12	97	22	52	2	76	10	96	114	105	110	125	110
40	Salines	48	8	91	26	94	24	78	8	83	18	79	10	98	118	111	119	113	111¼
41	Buckbee's Illinois	47	22	74	4	109	24	88	8	60	..	75	32	100	116	109	110	119	110¾
42	Flying Scotchman	47	22	71	26	71	6	74	4	60	..	64	32	93	112	98	105	125	106⅜
43	Miller	47	2	89	14	113	18	82	32	89	14	84	16	97	114	104	119	125	111¾
44	Kendal	47	2	89	14	71	26	79	14	63	8	70	6	97	118	110	119	115	111¾
45	Medal	47	2	70	20	86	6	64	4	72	12	68	2	98	118	106	119	124	113
46	Siberian O. A. C	47	2	96	16	86	26	92	12	58	26	76	10	98	118	102	119	126	112⅜
47	California Prol. Blk.	45	30	69	14	80	..	87	22	72	32	70	6	97	113	110	120	120	112
48	White Schonen	45	10	81	6	92	12	87	22	68	8	74	32	98	114	102	111	117	108⅜
49	Cream Egyptian	45	10	95	10	74	4	84	4	52	32	70	12	97	113	96	102	121	105¼
50	Rosedale	45	10	87	6	58	18	68	28	56	6	63	7	95	114	104	111	117	108¼
51	Milford	44	24	90	20	68	8	86	16	57	2	69	7	99	118	108	119	116	112
52	White Wonder	44	4	62	12	72	32	74	24	54	24	61	26	92	113	95	102	121	104⅜

UNIFORM TEST PLOTS OF OATS – *concluded.*

Number.	Name of Variety.	Yield per Acre at the several Experimental Farms, Season of 1899.										Number of Days from Sowing to Harvesting.					
		Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.	Average of all Farms.	Ottawa, Ont.	Nappan, N.S.	Brandon, Man.	Indian Head, N.W.T.	Agassiz, B.C.	Average of all Farms.
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Bush.	Days.	Days.	Days.	Days.	Days.	Days.
53	Russell	43	18	71	26	92	2	72	12	74	70	98	118	105	119	124	112½
54	Master	43	18	80	..	88	28	65	30	44	64	99	116	101	119	115	110
55	Abundance	41	26	88	8	98	8	97	2	62	77	97	114	106	111	126	110½
56	Scottish Chief	41	26	67	2	71	26	88	8	70	67	92	113	92	102	119	103½
57	Bonanza	41	26	67	2	92	22	90	20	46	67	93	114	96	102	121	105½
58	Early Blossom	41	26	87	6	94	24	80	20	75	75	97	113	110	119	125	112½
59	Rennie's Prize White	40	20	88	8	76	16	83	18	43	66	99	106	98	102	125	106
60	Brandon	40	20	65	30	79	24	71	6	44	60	97	118	106	119	125	113
61	Holland	40	..	87	6	80	30	76	16	68	70	99	123	113	119	120	114½
62	King	39	14	75	10	105	20	90	..	78	77	97	119	106	119	126	113½
63	Early Dawson	39	14	71	26	65	20	68	8	49	58	93	112	98	105	124	106½
64	Black Mesdag	38	28	75	10	69	14	65	30	48	59	93	107	92	105	118	103
65	Mortgage Lifter	38	28	71	26	72	22	68	8	65	63	94	112	92	105	119	104½
66	Coulommiers	35	30	71	26	84	24	66	16	65	64	98	123	113	120	126	116
67	Pense	35	10	85	30	78	8	70	20	71	68	98	116	109	119	126	113½
68	Welcome	35	10	81	6	86	26	88	8	55	69	92	113	96	102	125	105½
69	Imported Irish	34	24	82	12	84	14	86	16	51	67	92	106	99	102	116	103
70	Prize Cluster	31	26	76	16	76	6	78	32	46	61	94	107	96	102	121	105
71	Doncaster Prize	25	10	85	30	57	22	76	16	67	62	99	115	100	113	120	109½

The twelve varieties of oats which have produced the largest crops during 1899 at the several experimental farms are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT.

		Per acre. Bush.	Lbs.			Per acre. Bush.	Lbs.
1.	Thousand Dollar	74	4	7.	American Triumph	65	30
2.	Golden Giant	68	8	8.	Danish Island	65	30
3.	Holstein Prolific	67	22	9.	American Beauty	64	24
4.	Poland	67	2	10.	Columbus	64	24
5.	New Zealand	66	16	11.	White Giant	64	24
6.	Banner	65	30	12.	Prolific Black Tartarian	61	26

An average crop for the twelve sorts of 66 bushels 14 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

		Per acre. Bush.	Lbs.			Per acre. Bush.	Lbs.
1.	California Prolific Black, imported 1899	104	24	7.	Black Tartarian, imported 1899	94	4
2.	Oderbruch	98	28	8.	Wallis	94	32
3.	Siberian O. A. C	96	16	9.	Lincoln	92	32
4.	Cream Egyptian	95	10	10.	Abyssinia	91	26
5.	White Russian	94	4	11.	New Zealand	91	28
6.	Early Golden Prolific	94	4	12.	Salines (Vilmorin)	91	26

An average crop of 95 bushels 2 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Mill's	113	18	8. King	105	20
2. Banner	110	10	9. Wide Awake	103	28
3. Buckbee's Illinois	109	24	10. Golden Beauty	102	12
4. American Beauty	108	28	11. Improved Ligowo, imported 1899	100	20
5. Early Maine	107	22	12. Early Archangel	98	28
6. Hazlett's Seizure	106	16			
7. Poland	105	20			

An average crop of 106 bushels 3 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Golden Beauty	97	22	7. American Triumph	93	18
2. Abundance	97	2	8. Joanette	91	6
3. Holstein Prolific	97	2	9. Black Beauty	90	20
4. Bavarian	96	16	10. King	90	..
5. Banner	95	30	11. Wide Awake	90	..
6. New Zealand	95	10	12. Columbus	88	28

An average crop of 93 bushels 21 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. California Prolific Black, imported 1899	91	6	7. Prolific Blk. Tartarian	78	2
2. Miller	89	14	8. Golden Giant	76	16
3. Salines	83	18	9. Golden Tartarian	76	16
4. New Zealand	83	4	10. Abyssinia	75	33
5. Blk. Tartarian, imported 1899	78	28	11. Early Blossom	75	16
6. King	78	14	12. Russell	74	4

An average crop of 80 bushels 3 lbs. per acre.

The twelve varieties of oats which have produced the largest crops in 1899 taking the average results obtained on all the experimental farms are :

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. American Beauty	85	15	8. California Prolific Blk., imported 1899	79	32
2. Banner	85	11	9. Wide Awake	79	18
3. Miller	84	16	10. Salines	79	10
4. New Zealand	84	3	11. Early Maine	79	2
5. Holstein Prolific	82	17	12. Poland	78	25
6. Danish Island	81	18			
7. Blk. Tartarian, imported 1899	80	..			

An average crop of 81 bushels 22 lbs. per acre.

The average crop of all the varieties of oats tested at each of the experimental farms in 1899 was as follows :—At Ottawa, 50 bushels 15 lbs. per acre ; Nappan, 82 bushels 2 lbs. ; Brandon, 86 bushels 2 lbs. ; Indian Head, 80 bushels 7 lbs., and at Agassiz, 64 bushels 20 lbs. The average return given by the whole of the varieties of oats tested at all the farms was 72 bushels 23 lbs. per acre.

TRIAL PLOTS OF BARLEY.

Fifty-one varieties of barley have been tested in the trial plots during 1899, including twenty-one different sorts of two-rowed barley and thirty of six-rowed. Among the two-rowed sorts there are fourteen hybrid varieties which have been produced at the experimental farms, namely, Sidney, Beaver, Fulton, Leslie, Monck, Nepean, Logan, Dunham, Clifford, Victor, Jarvis, Pacer, Bolton and Harvey. Among the six-rowed sorts there are seventeen of these hybrids, namely, Claude, Pioneer, Royal, Nugent, Trooper, Summit, Yale, Vanguard, Stella, Argyle, Mansfield, Garfield, Brome, Phœnix, Empire, Albert and Surprise.

The barley plots were of the same size as those sown with oats. The quantity of seed used in each case was at the rate of two bushels per acre, and the dates of sowing were as follows: At Ottawa, May 1 and 2; Nappan, May 11; Brandon, May 18 and 19; Indian Head, May 24; and at Agassiz on April 25.

UNIFORM TEST-PLOTS OF TWO-ROWED BARLEY.

Number.	Name of Variety.	Yield per Acre at the several Experimental Farms for Season of 1899.										Number of Days from Sowing to Harvesting.					
		Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.		Average of all Farms.		Ottawa, Ont.	Nappan, N.S.	Brandon, Man.	Indian Head, N.W.T.	Agassiz, B.C.	Average of all Farms.
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Days.	Days.	Days.	Days.	Days.	Days.
1	Sidney	50	43	16	53	6	63	36	36	49	49	21		94	105	85	104	121	101
2	Beaver	49	8	55	40	52	24	55	20	31	12	48	40	94	103	95	103	114	101
3	French Chevalier	47	24	64	8	60	10	65	40	30		53	52	95	104	95	105	115	102
4	Danish Chevalier	47	4	49	8	50	50	66	32	33	36	49	22	95	105	99	104	122	105
5	Canadian Thorpe	46	32	50	40	49	38	58	36	36	32	48	26	93	104	94	98	115	100
6	Fulton	46	32	44	8	62	4	50		32	44	47	8	89	105	92	98	115	99
7	Leslie	45	40	44	8	55		55	40	33	26	46	42	89	105	92	95	114	99
8	Monck	45	20	47	24	46	2	48	36	30	40	43	34	95	105	92	105	121	103
9	Nepean	45	20	50	40	58	16	50		35	40	48	4	89	105	88	98	115	99
10	Logan	45	20	44	8	68	6	49	8	35	40	48	26	89	105	88	95	114	98
11	Dunham	45		45	40	63	36	57	4	34	8	49	8	89	105	88	98	115	99
12	Clifford	44	28	50	40	56	32	49	28	34	8	47	8	89	105	89	98	114	99
13	Victor	44	28	47	24	59	28	53	16	34	28	47	44	90	105	88	98	114	99
14	Jarvis	44	8	51	32	55	40	51	12	35		47	28	89	105	89	98	115	99
15	Pacer	41	42	40	40	47	24	45	20	30	20	41	10	89	103	92	98	123	101
16	Bolton	38	16	44	8	62	4	58	16	33	16	47	12	89	103	88	98	115	98
17	Kinver Chevalier	35	20	44	8	56	12	55		29	8	44		98	105	99	113	121	107
18	Improved Thanet	33	16	41	32	44	18	57	4	23	36	40	2	98	105	92	113	123	106
19	Newton	30	40	57	24	61	2	43	16	39	8	46	18	98	105	95	98	114	102
20	Harvey	30		53	16	64	28	49	28	35		46	24	89	104	92	98	115	99
21	Prize Prolific	28	36	42	24	56	22	56	32	30	40	43	2	99	105	99	113	121	105

The six varieties of two-rowed barley which have given the largest crops at the several experimental farms during 1899, are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Sidney	50	..	4. Danish Chevalier	47	4
2. Beaver	49	8	5. Canadian Thorpe	46	32
3. French Chevalier	47	24	6. Fulton	46	32

An average crop of 47 bushels 40 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. French Chevalier	64	8	4. Harvey	53	16
2. Newton	57	24	5. Jarvis	51	32
3. Beaver	55	40	6. Nepean	50	40

An average crop of 55 bushels 26 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Logan	68	6	4. Bolton	62	4
2. Harvey	64	28	5. Fulton	62	4
3. Dunham	63	36	6. Newton	61	2

An average crop of 63 bushels 29 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Danish Chevalier	66	32	4. Canadian Thorpe	58	36
2. French Chevalier	65	40	5. Bolton	58	16
3. Sidney	63	36	6. Dunham	57	4

An average crop of 61 bushels 35 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Newton	39	8	4. Nepean	35	40
2. Canadian Thorpe	36	32	5. Jarvis	35	..
3. Logan	35	40	6. Harvey	35	..

An average crop of 36 bushels 12 lbs. per acre.

The six varieties of two-rowed barley which have given the largest crops in 1899, taking the average of the results obtained on all the experimental farms, are :—

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. French Chevalier	53	32	4. Dunham	49	8
2. Danish Chevalier	49	22	5. Beaver	48	40
3. Sidney	49	21	6. Canadian Thorpe	48	26

An average crop of 49 bushels 41 lbs. per acre.

The average crop of all the varieties of two-rowed barley tested at each of the experimental farms in 1899 was as follows:—At Ottawa, 42 bushels 12 lbs. per acre; Nappan, 48 bushels 14 lbs.; Brandon, 56 bushels 19 lbs.; Indian head, 54 bushels 15 lbs.; and at Agassiz, 33 bushels 10 lbs. per acre. The average return given by the whole of the varieties at all the farms was 46 bushels 43 lbs. per acre.

UNIFORM TEST PLOTS OF SIX ROWED BARLEY.

Number.	Name of Variety.	Yield per Acre at the several Experimental Farms for Season of 1899.																				Number of Days from Sowing to Harvesting.											
		Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.		Average of all Farms.		Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.		Average of all Farms.	
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Days.		Days.		Days.		Days.		Days.		Days.	
1	Common	52	24	34	8	55	40	58	16	30	40	46	16	84		97		80		92		119		94	
2	Claude	52		45	40	67		4	69		8	32	34	53	17	87		103		94		99		113		99	
3	Pioneer	50	40	35	40	56	42	56	12	33	16	46	30	88		97		92		99		109		97	
4	Petschora	50	40	45		53	6	60		32	14	48	12	84		98		85		93		109		93	
5	Rennie's Improved	50	20	44		8	53	46	69	28	30		49	30	84		98		82		92		109		93	
6	Royal	50		36	32	61	42	60		34	28	48	30	84		98		83		93		106		92	
7	Nugent	50		45		61	22	55		40		50	14	87		103		92		94		113		97	
8	Trooper	49		38	16	65	40	69		32	44	51	4	85		102		90		94		122		98	
9	Oderbruch	49		43	16	55	40	58	36	40	20	49	24	86		102		85		93		119		95	
10	Summit	48	16	41	32	66	12	62	24	32	44	50	16	91		103		89		94		114		98	
11	Odessa	47	44	45	40	52	14	61	12	32		47	42	85		97		87		94		109		94	
12	Yale	47	24	50	40	53	16	58	36	35	10	49	6	91		102		94		99		109		99	
13	Vanguard	47		50		58	36	55		31	12	48	20	85		103		86		92		109		95	
14	Stella	46	32	45		56	42	61	12	35	20	49	2	84		103		88		94		114		96	
15	Hulless Black	46	32	40	40	44		8	44	40	29		8	41	6	84		99		88		93		109		94	
16	Argyle	46	12	59		8	63	36	68	36	37	44	55	8	87		97		86		94		109		94	
17	Blue Long-head	46	12	56	32	46	32	65	40	32	24	49	28	87		97		87		93		113		95	
18	Mansfield	45	20	50	40	64	38	66	32	33	16	52	10	87		99		86		94		108		94	
19	Mensury	44		55	40	58	16	62		38	16	51	36	88		98		86		93		109		94	
20	Garfield	43	16	55		51	32	55	40	33	36	47	44	87		98		94		104		109		98	
21	Success	41	32	35	40	41	32	50		32	24	40	16	78		95		83		85		104		89	
22	Brome	41	12	50		48	16	57	24	34		46	12	91		103		94		105		114		101	
23	Champion	40	40	36	32	47	24	46	12	36	22	41	26	85		95		85		89		108		92	
24	Phœnix	40		35	40	53	26	60	20	35	30	45	4	85		97		86		92		111		94	
25	Baxter	38	16	55	40	53	26	63	36	40	40	50	22	87		97		82		93		113		94	
26	Excelsior	36	32	26	32	46	32	55	40	32	34	39	34	80		96		79		89		109		90	
27	Hulless White	35	40	35		34		8	40	20	16	32	32	20	85		96		88		92		119		96	
28	Empire	34		39		8	57	44	61	12	33	36	45	12	86		103		89		94		120		98	
29	Albert	34		8	44		8	48	16	50	40	40	30	43	30	88		99		86		99		107		95	
30	Surprise	30	40	42	24	58	26	56	12	34	18	44	28	88		103		88		93		115		97	

The six varieties of six rowed barley which have given the largest crops at the several experimental farms during 1899, are the following:

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Common	52	24	4. Petschora	50	40
2. Claude	52	—	5. Rennie's Improved	50	20
3. Pioneer	50	40	6. Royal	50	

An average crop of 51 bushels 4 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Argyle	59	8	4. Baxter	55	40
2. Blue Long-head	56	32	5. Garfield	55	
3. Mensury	55	40	6. Mansfield	50	40

An average crop of 55 bushels 26 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Claude	67	4	4. Mansfield	64	38
2. Summit	66	12	5. Argyle	63	36
3. Trooper	65	40	6. Royal	61	42

An average crop of 64 bushels 44 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Rennie's Improved	69	28	4. Argyle	68	36
2. Trooper	69	8	5. Mansfield	66	32
3. Claude	69	8	6. Blue Long-head	65	40

An average crop of 68 bushels 9 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Baxter	40	40	4. Nugent	40	—
2. Albert	40	30	5. Mensury	38	16
3. Oderbruch	40	20	6. Argyle	37	44

An average crop of 39 bushels 33 lbs. per acre.

The six varieties of six-rowed barley which have given the largest crops in 1899, taking the average of the results obtained on all the experimental farms are :—

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Argyle	55	8	4. Mensury	51	36
2. Claude	53	17	5. Trooper	51	4
3. Mansfield	52	10	6. Baxter	50	22

An average crop of 52 bushels 16 lbs. per acre.

The average crop of all the varieties of six-rowed barley tested at each of the experimental farms in 1899, was as follows : at Ottawa, 44 bushels 29 lbs. per acre ; Nappan, 44 bushels 2 lbs. ; Brandon, 54 bushels 30 lbs. ; Indian Head, 58 bushels 34 lbs. ; and at Agassiz 34 bushels 3 lbs. The average return given by the whole of the varieties at all the farms was 47 bushels 10 lbs. per acre.

TRIAL PLOTS OF SPRING WHEAT.

Fifty-two varieties of spring wheat have been grown on the uniform test plots for 1899. Among these there are thirty cross-bred sorts which have been produced at the experimental farms. These are Preston, Laurel, Vernon, Captor, Stanley, Percy, Rideau, Admiral, Beauty, Progress, Weldon, Crown, Harold, Huron, Blenheim, Alpha, Clyde, Countess, Fraser, Ebert, Crawford, Advance, Dufferin, Blair, Mason, Plumper, Early Riga, Dawn, Byron and Norval. The size of the plots in each case was the same as those of the oats, and the quantity of seed sown was in the proportion of one and one-half bushels per acre. The dates of sowing were as follows :— At Ottawa April 28 and 29 ; Nappan May 6 ; Brandon April 29 to May 1 ; Indian Head April 27 ; and at Agassiz April 15.

UNIFORM TEST PLOTS OF SPRING WHEAT.

Number.	Name of Variety.	Yield per Acre at the several Experimental Farms for Season of 1899.												Number of Days from Sowing to Harvesting.					
		Ottawa, Ont.		Nappan, N. S.		Brandon, Man.		Indian Head, N. W. T.		Agassiz, B. C.		Average of all Farms		Ottawa, Ont.	Nappan, N.S.	Brandon, Man.	Indian Head, N. W. T.	Agassiz, B. C.	Average of all Farms
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Days.	Days.	Days.	Days.	Days.	Days.
1	Preston	33	20	37	20	38	40	33	20	31	10	34	46	98	119	112	131	129	117
2	Wellman's Fife	32	40	45	..	40	10	36	20	29	20	36	42	102	122	120	133	129	121
3	Hungarian	31	20	48	40	37	30	34	40	31	..	36	38	99	119	118	131	129	119
4	Emporium	31	..	31	20	35	10	30	..	24	40	30	26	101	119	119	131	126	119
5	Roumanian	30	40	48	40	54	20	34	20	30	40	39	44	106	121	121	129	125	120
6	Rio Grande	29	..	40	..	39	40	34	20	28	40	34	20	101	118	118	129	125	118
7	Colorado	28	20	39	20	32	40	26	20	26	10	30	34	99	117	113	122	126	115
8	Laurel	28	20	44	40	44	..	29	40	21	30	33	38	102	121	121	132	126	120
9	Pringle's Champlain	28	..	40	40	41	..	33	20	27	..	34	..	101	119	118	127	129	118
10	Monarch	27	..	38	40	39	40	34	20	34	20	34	48	102	122	121	131	129	121
11	White Connell	27	..	41	20	38	30	32	..	24	10	32	36	103	119	121	134	129	121
12	White Fife	27	..	44	40	39	..	35	40	24	..	33	40	102	122	121	134	129	121
13	White Russian	26	40	40	..	39	40	32	..	26	20	32	56	101	122	121	134	129	121
14	Vernon	26	..	42	..	32	50	17	40	24	40	28	38	98	114	115	122	125	114
15	Captor	25	40	38	40	37	..	29	40	20	50	30	22	102	119	113	129	126	117
16	Stanley	25	20	32	40	36	20	33	20	28	20	31	12	99	119	113	131	126	117
17	Red Fern	25	20	30	..	35	..	38	20	31	20	32	..	108	120	118	131	129	121
18	Percy	25	20	38	40	34	20	33	..	25	20	31	20	100	118	109	131	125	116
19	Rideau	25	20	27	20	34	40	29	30	24	40	28	16	95	118	112	130	126	116
20	Admiral	25	..	35	20	37	10	30	40	26	40	30	58	103	117	113	127	126	117
21	Beauty	24	40	32	40	34	40	29	40	23	20	29	..	101	119	119	129	126	118
22	Goose	24	20	44	..	50	20	31	40	31	..	36	16	106	118	122	131	126	120
23	Dion's	24	20	36	40	38	..	35	..	30	10	32	50	108	118	118	131	126	120
24	Progress	24	20	35	20	36	20	32	40	27	40	31	16	96	118	112	131	129	117
25	Weldon	24	20	33	20	36	..	27	20	30	..	30	12	102	120	111	127	129	117
26	Crown	24	..	34	..	45	40	30	20	26	..	32	..	101	118	112	129	126	117
27	Harold	24	..	31	20	37	20	19	..	24	..	27	8	91	118	105	115	118	109
28	Huron	23	20	44	..	42	20	35	..	34	20	35	48	98	118	112	130	125	116
29	Blenheim	23	..	40	40	35	..	33	40	26	20	31	44	101	118	113	131	129	118
30	White Chaff, Campbell's	22	40	32	40	35	20	20	40	26	..	27	28	103	119	112	122	129	117
31	Ladoga	22	40	25	20	33	..	26	40	25	20	26	36	95	112	110	122	126	113
32	Alpha	22	40	36	40	36	..	38	20	25	40	31	52	101	118	111	127	129	117
33	Clyde	22	..	42	..	36	..	29	40	30	50	32	6	102	118	119	131	126	119
34	Countess	20	40	31	20	41	40	31	20	28	..	30	36	96	119	113	122	126	115
35	Fraser	19	40	33	20	38	40	24	20	21	40	27	32	95	120	105	115	119	110
36	Red Swedish	19	20	34	..	30	20	24	20	28	40	27	20	99	120	120	131	126	119
37	Red Fife	18	40	37	20	38	30	39	40	31	30	33	8	102	119	121	131	129	120
38	Ebert	18	40	34	..	37	20	21	40	27	50	27	54	96	120	108	117	126	113
39	Crawford	18	20	34	40	39	..	29	40	26	50	29	42	102	121	110	117	118	113
40	Beaudry	17	20	40	..	29	40	30	20	25	..	28	28	101	118	108	131	129	117
41	Advance	17	..	39	20	40	30	29	20	27	..	30	38	101	119	113	131	129	118
42	Dufferin	16	40	33	20	37	30	25	20	26	30	27	52	95	117	113	122	119	113
43	Blair	16	20	34	..	37	20	33	20	27	50	29	46	100	118	111	117	126	114
44	Herisson Bearded	16	..	44	..	32	50	26	40	29	..	29	42	101	118	118	127	129	118
45	Black Sea	16	..	32	..	34	40	22	20	28	50	26	46	95	112	109	131	125	114
46	Mason	16	..	34	..	37	..	32	40	26	20	29	12	100	119	111	117	125	114
47	Plumper	15	..	40	40	35	20	24	20	23	20	27	44	99	118	109	117	126	113
48	Early Riga	15	..	34	40	37	20	20	20	24	20	26	20	92	114	131	115	118	108
49	Dawn	15	..	34	40	43	..	27	40	28	30	29	46	98	118	107	122	129	114
50	Byron	14	40	38	40	41	20	22	20	27	40	28	56	98	117	109	117	119	112
51	Norval	11	20	37	20	37	40	23	..	27	40	27	24	101	117	109	117	119	112
52	Golden Drop	9	20	38	40	33	40	24	40	25	40	26	24	98	117	112	122	125	114

The twelve varieties of spring wheat which have given the largest crops at the several experimental farms during 1899, are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Preston	33	20	7. Laurel	28	20
2. Wellman's Fife	32	40	8. Colorado	28	20
3. Hungarian	31	20	9. Pringle's Champlain	28	—
4 Emporium	31	—	10. White Fife	27	—
5. Roumanian	30	40	11. White Connell	27	—
6. Rio Grande	29	—	12. Monarch	27	—

An average crop of 29 bushels 28 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Hungarian	48	40	7. Goose	44	—
2. Roumanian	48	40	8. Herisson Bearded	44	—
3. Wellman's Fife	45		9. Vernon	42	—
4. White Fife	44	40	10. Clyde	42	—
5. Laurel	44	40	11. White Connell	41	20
6. Huron	44		12. Blenheim	40	40

An average crop of 44 bushels 8 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Roumanian	54	20	7. Countess	41	40
2. Goose	50	20	8. Byron	41	20
3. Crown	45	40	9. Advance	40	30
4. Laurel	44		10. Wellman's Fife	40	10
5. Dawn	43	—	11. White Russian	39	40
6. Huron	42	20	12. Rio Grande	39	40

An average crop of 43 bushels 33 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Red Fife	39	40	7. Monarch	34	20
2. Alpha	38	20	8. Rio Grande	34	20
3. Red Fern	38	20	9. Roumanian	34	20
4. Huron	35	—	10. White Fife	33	40
5. Dions	35	—	11. Blenheim	33	40
6. Hungarian	34	40	12. Preston	33	20

An average crop of 35 bushels 23 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Monarch	34	20	7. Goose	31	—
2. Huron	34	20	8. Clyde	30	50
3. Red Fife	31	30	9. Roumanian	30	40
4. Red Fern	31	20	10. Dion's	30	10
5. Preston	31	10	11. Weldon	30	—
6. Hungarian	31	—	12. Wellman's Fife	29	20

An average crop of 31 bushels 18 lbs. per acre.

The twelve varieties of spring wheat which have given the largest crops in 1899; taking the average of the results obtained on all the experimental farms are—

		Per acre. Bush.	Lbs.			Per acre. Bush.	Lbs.
1.	Roumanian	39	44	7.	Preston	34	46
2.	Wellman's Fife	36	42	8.	Rio Grande	34	20
3.	Hungarian	36	38	9.	Pringle's Champlain	34	-
4.	Goose	36	16	10.	White Fife	33	46
5.	Huron	35	48	11.	Laurel	33	38
6.	Monarch	34	48	12.	Red Fife	33	8

An average crop of 35 bushels 17 lbs. per acre.

The average crop of all the varieties of spring wheat tested at each of the experimental farms in 1899, was as follows: At Ottawa 22 bushels 36 lbs. per acre; Nappan, 37 bushels 18 lbs.; Brandon 37 bushels 49 lbs.; Indian Head, 29 bushels 45 lbs.; and at Agassiz, 27 bushels 11 lbs. The average return given by the whole of the varieties of spring wheat at all the farms was 30 bushels 56 lbs. per acre.

TRIAL PLOTS OF PEASE.

Fifty-six varieties of pease have been tested in the uniform trial plots during 1899. Among these there were thirty of the cross-bred sorts which have been originated at the experimental farms. These are Nelson, Vincent, Arthur, Agnes, Archer, Carleton, Alma, Duke, Prince, Fenton, Pearl, Kent, Lanark, Picton, King, Mackay, Bruce, Dover, Cooper, Perth, Macoun, Gregory, Herald, Elder, Elliott, Fergus, Bright, Bedford, Trilby and Chelsea. These were sown at Ottawa, Nappan and Agassiz in plots of one-fortieth acre each, and at Brandon and Indian Head in plots of one-twentieth acre, and the quantity of seed used per acre has varied from two to three bushels, depending on the size of the pea. The dates of sowing were as follows:—At Ottawa May 3; Nappan, May 10; Brandon, May 8 to 11; Indian Head, May 10; and at Agassiz, on April 17.

No returns can be given of the crops of pease on the plots at Ottawa on account of an unfortunate occurrence. On the 21st of August when a large proportion of the varieties were cut and nearly ready to bring in, a sudden storm arose with a violent wind and before it was possible to rescue them, they were all blown to the opposite end of the field where they were so mixed that it was impossible to separate them.

UNIFORM TEST PLOTS OF PEASE.

Number.	Name of Variety.	Yield per Acre at the several Experimental Farms Season of 1899.								Number of Days from Sowing to Harvesting.				
		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.	Average of all Farms.	Nappan, N.S.	Brandon, Man.	Indian Head, N.W.T.	Agassiz, B.C.	Average of all Farms.
		Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Bush.	Lbs.	Days.	Days.	Days.	Days.	Days.
1	Nelson	35	20	45	..	25	40	32	50	34	42	120	103	116	119	114½
2	English Grey	34	40	35	10	26	40	36	20	33	12	121	118	107	115	115¼
3	Centennial	30	40	36	20	24	20	40	..	32	50	123	107	118	121	117¼
4	Early Britain	29	20	44	20	26	40	38	20	34	40	121	110	104	113	112
5	Oddfellow	29	20	32	20	19	40	32	30	28	27	120	130	118	122	122¼
6	German White	28	40	43	10	33	40	43	30	37	15	120	111	109	119	114¾
7	Canadian Beauty	28	40	42	50	17	20	37	10	31	30	121	130	121	116	122
8	Vincent	28	..	38	..	23	40	32	10	30	27	130	109	108	116	115½
9	French Canner	28	..	37	40	24	20	40	..	32	30	120	103	107	114	111
10	Arthur	27	20	42	40	26	20	35	40	33	.	120	106	109	116	112¾
11	Agnes	27	20	37	20	32	40	33	40	32	45	121	110	115	119	116¼
12	Chancellor	27	20	43	..	31	40	37	40	34	55	120	102	107	124	113¼
13	New Potter	27	..	45	20	20	..	35	..	31	50	122	126	112	113	118
14	Archer	26	40	51	30	34	20	32	..	36	7	122	111	120	119	118
15	Carleton	26	..	49	20	34	40	35	30	36	22	123	111	116	121	117¾
16	Pride	25	20	43	30	26	..	40	20	33	47	119	103	108	119	112¼
17	Alma	25	20	42	20	14	40	34	..	29	5	126	123	120	116	121¼
18	Duke	25	20	42	..	25	40	39	..	33	..	131	124	115	122	123
19	Elephant Blue	25	20	37	40	22	40	31	20	29	15	128	112	119	117	119
20	Prince	24	40	32	20	27	..	41	10	31	15	131	121	109	121	120½
21	Fenton	24	40	35	40	23	..	36	10	29	52	119	114	119	119	117¾
22	Pearl	24	40	48	50	27	20	42	20	33	17	131	126	119	119	123¾
23	Crown	24	40	45	20	35	40	33	..	34	40	119	109	111	115	113¾
24	Kent	24	..	44	40	22	..	33	20	31	..	131	121	114	121	121¾
25	Lanark	23	20	35	50	29	40	39	10	32	..	119	111	109	120	114¼
26	Mummy	23	20	48	50	27	..	41	20	32	..	120	111	108	113	113
27	Picton	23	20	46	50	38	..	39	30	36	55	121	111	121	114	116¾
28	King	23	20	44	10	26	..	45	40	34	47	131	126	117	120	123¾
29	White Wonder	22	40	51	30	30	20	40	40	36	17	120	116	109	112	114¼
30	Paragon	22	40	46	40	24	20	38	10	32	57	131	101	113	118	115¾
31	Mackay	22	..	47	..	19	.	31	50	29	57	131	120	116	115	120¾
32	Daniel O'Rourke	22	..	42	40	26	..	34	40	31	20	119	109	110	112	112¾
33	Black-eyed Marrowfat	22	..	45	30	21	20	39	20	32	2	121	114	116	120	117¾
34	Large White Marrowfat	21	20	38	30	22	40	38	40	30	17	128	129	120	122	124¾
35	Bruce	20	40	44	20	23	40	39	50	32	7	128	120	115	120	120¾
36	Dover	20	40	42	..	34	10	40	10	34	15	131	117	120	121	122¼
37	Cooper	20	..	37	40	25	20	28	..	27	45	120	130	117	117	121
38	Prussian Blue	20	..	49	40	30	..	36	40	34	5	118	111	119	119	116¾
39	Victoria	20	..	51	..	22	40	47	20	35	15	128	121	121	121	122¾
40	Perth	18	40	42	40	22	20	28	..	27	55	118	112	108	120	114¼
41	Macoun	18	40	49	40	34	20	39	50	35	37	126	123	118	124	122¾
42	Gregory	18	40	38	20	31	..	44	20	33	5	122	114	121	120	119¼
43	Herald	18	40	51	..	29	10	39	40	34	37	131	121	119	110	120¼
44	Prince Albert	18	..	42	50	25	40	38	20	31	27	122	114	118	118	118
45	Elder	18	..	58	30	29	20	45	20	37	47	126	119	120	119	121
46	Elliott	17	20	45	30	28	20	41	40	33	12	128	120	115	119	120¾
47	Multiplier	17	20	46	20	22	20	43	..	32	15	119	116	117	115	116¾
48	Fergus	16	40	45	40	32	20	42	..	34	10	123	114	122	121	120
49	Bright	16	40	36	30	18	40	38	30	27	35	128	129	118	124	124¾
50	Bedford	16	40	46	..	27	..	43	20	33	15	131	126	115	123	123¾
51	Harrison's Glory	16	40	34	..	25	40	32	..	27	5	123	104	119	113	114¾
52	Trilby	16	40	47	..	34	..	38	..	33	55	126	129	118	120	123¼
53	Golden Vine	16	..	48	50	26	20	42	40	33	27	122	110	110	113	113¾
54	Creeper	13	20	39	40	30	20	41	..	31	5	123	106	109	114	113
55	Chelsea	13	20	56	..	35	..	36	40	35	15	120	119	120	120	119¾
56	Wisconsin Blue	13	20	52	..	34	40	38	..	34	30	122	123	....	128	124¼

The twelve varieties of pease which have given the largest crops at the several experimental farms, omitting Ottawa, during 1899 are the following :—

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Nelson	35	20	7. German White	28	40
2. English Grey	34	40	8. French Canner	28	
3. Centennial	30	40	9. Vincent	28	
4. Early Britain	29	20	10. Arthur	27	20
5. Oddfellow	29	20	11. Agnes	27	20
6. Canadian Beauty	28	40	12. Chancellor	27	20

An average crop of 29 bushels 33 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Elder	58	30	7. Victoria	51	
2. Chelsea	56		8. Macoun	49	40
3. Wisconsin Blue	52		9. Prussian Blue	49	40
4. Archer	51	30	10. Carleton	49	20
5. White Wonder	51	30	11. Pearl	48	50
6. Herald	51		12. Mummy	48	50

An average crop of 51 bushels 29 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Picton	38		7. Dover	34	10
2. Crown	35	40	8. Trilby	34	
3. Chelsea	35		9. German White	33	40
4. Carleton	34	40	10. Agnes	32	40
5. Macoun	34	20	11. Fergus	32	20
6. Archer	34	20	12. Chancellor	31	40

An average crop of 34 bushels 12 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Victoria	47	20	7. Multiplier	43	
2. King	45	40	8. Golden Vine	42	40
3. Elder	45	20	9. Pearl	42	20
4. Gregory	44	20	10. Fergus	42	
5. German White	43	30	11. Elliott	41	40
6. Bedford	43	20	12. Mummy	41	20

An average crop of 43 bushels 32 lbs. per acre.

The twelve varieties of pease which have given the largest crops in 1899, taking the average results obtained on all the experimental farms are the following :—

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Elder	37	47	7. Macoun	35	37
2. German White	37	15	8. Chelsea	35	15
3. Picton	36	55	9. Victoria	35	15
4. Carleton	36	22	10. Chancellor	34	55
5. White Wonder	36	17	11. King	34	47
6. Archer	36	7	12. Nelson	34	42

An average crop of 35 bushels 56 lbs. per acre.

The average crop of all the varieties of pease tested at each of the experimental farms in 1899 was as follows :—At Nappan, 22 bushels 41 lbs.

per acre; Brandon, 43 bushels 43 lbs.; Indian Head, 26 bushels 58 lbs.; and at Agassiz, 37 bushels 58 lbs. The average return given by the whole of the varieties at all the farms, omitting Ottawa, was 32 bushels 50 lbs. per acre.

TRIAL PLOTS OF INDIAN CORN.

Thirty-one varieties of Indian corn have been tested during 1899. These were planted on fairly uniform soil, in rows three feet apart, and the plants thinned out to six or eight inches apart in the rows. The dates of planting were as follows: at Ottawa, May 25; Nappan, May 31; Brandon, May 26; Indian Head, May 29 and at Agassiz on May 20.

All the plots were cut green and put into the silo for the winter feeding of stock. The dates of cutting were: at Ottawa, September 14; Nappan, September 26; Brandon, September 3; Indian Head, September 9 and at Agassiz on October 10. The yield per acre has been calculated in each case from the weight obtained from two rows, each 66 feet long.

UNIFORM TEST PLOTS OF INDIAN CORN.

Number.	Name of Variety.	Yield per Acre at the several Experimental Farms, Season of 1899.										Average of all Farms.	
		Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B. C.			
		Per acre. Tons.	Lbs.	Per acre. Tons.	Lbs.	Per acre. Tons.	Lbs.	Per acre. Tons.	Lbs.	Per acre. Tons.	Lbs.	Per acre. Tons.	Lbs.
1	Angel of Midnight	25	600	12	1,300	17	1,860	9	1,030	21	1,450	17	848
2	Red Cob Ensilage	24	1,720	19	1,050	18	1,400	10	900	31	1,140	21	42
3	Early Mastodon	24	1,500	14	50	20	40	12	200	16	1,990	17	1,156
4	Extra Early Szekely	22	1,980	9	1,800	19	1,820	8	720	10	570	14	578
5	White Cap Yellow Dent	22	1,320	12	200	14	1,920	6	1,750	21	760	15	1,190
6	Canada White Flint	22	1,100	14	1,700	17	1,200	12	420	17	540	16	1,792
7	Sanford	20	700	14	50	16	560	9	1,250	22	1,560	16	1,224
8	Iowa Silver Mine	20	260	14	600	17	1,640	6	1,750	17	320	15	514
9	Champion White Pearl	19	1,600	10	900	26	1,900	9	1,800	27	1,000	18	1,840
10	Country Gentleman	19	1,160	9	1,250	18	1,400	5	1,000	20	920	14	1,546
11	Selected Leaming	19	610	12	750	17	1,200	9	370	21	1,120	16	10
12	Early Butler	19	500	10	1,450	14	1,040	11	770	23	1,520	15	1,856
13	Cloud's Early Yellow	18	1,400	10	350	19	1,600	10	1,450	26	1,790	17	518
14	Evergreen Sugar	18	960	12	200	18	300	10	900	17	210	15	514
15	Compton's Early	18	300	11	1,650	19	500	8	1,820	26	250	17	504
16	Iowa Gold Mine	18	300	9	1,800	15	1,240	....	....	16	1,220	15	140
17	Giant Prol. Ensilage	17	100	14	600	16	780	10	350	21	1,780	15	1,922
18	Rural Thoroughbred White Flint	16	1,000	11	1,100	17	100	10	350	17	1,200	14	1,150
19	Mammoth Cuban	15	1,900	11	1,650	20	920	9	1,250	21	1,450	15	1,834
20	Pride of the North	15	1,900	13	950	12	1,300	9	700	26	580	15	1,086
21	Pearce's Prolific	15	800	9	1,250	17	1,860	10	570	23	1,300	15	756
22	Kendall's Early Giant	15	360	11	....	15	1,240	8	1,380	16	1,440	13	1,684
23	North Dakota White	15	250	11	1,100	16	1,000	10	1,350	21	900	15	120
24	Mamm. 8 rowed Flint	14	1,700	9	1,250	18	300	11	220	22	1,650	15	624
25	Ruby Mexican	14	270	11	1,100	15	1,680	9	480	17	1,090	13	1,324
26	Longfellow	13	1,500	11	550	24	620	8	1,930	20	1,690	15	1,658
27	King of the Earliest	13	400	12	750	19	500	9	810	22	1,100	15	712
28	Extra Early Huron	12	1,300	11	.....	11	220	6	1,200	..	.....	10	680
29	Early Yellow Long Eared	12	1,300	6	1,200	12	640	8	1,600	9	1,140	9	1,776
30	Yellow Six Weeks	12	200	6	1,750	12	1,740	6	320	8	280	9	458
31	Mitchell's Extra Early	9	1,800	11	.....	15	580	7	740	.....		10	1,780

The six varieties of Indian corn which have given the heaviest crops at the several experimental farms during 1899, are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Angel of Midnight	25	600	4. Extra Early Szekely	22	1,980
2. Red Cob Ensilage	24	1,720	5. White Cap Yellow Dent	22	1,320
3. Early Mastodon	24	1,500	6. Canada White Flint	22	1,100

An average crop of 23 tons 1,703 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
			4. Canada White Flint	14	1,700
1. Red Cob Ensilage	19	1,050	5. Rural Thoroughbred White Flint	14	1,150
2. King of the Earliest	16	450			
3. North Dakota White	15	800	6. Giant Prolific Ensilage	14	600

An average crop of 15 tons 1,625 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Champion White Pearl	26	1,900	4. Early Mastodon	20	40
2. Longfellow	24	620	5. Extra Early Szekely	19	1,820
3. Mammoth Cuban	20	920	6. Cloud's Early Yellow	19	1,600

An average crop of 21 tons 1,816 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Canada White Flint	12	420	4. Mammoth 8-rowed Flint	11	220
2. Early Mastodon	12	200	5. Cloud's Early Yellow	10	1,450
3. Early Butler	11	770	6. North Dakota White	10	1,350

An average crop of 11 tons 735 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Red Cob Ensilage	31	1,140	4. Pride of the North	26	580
2. Champion White Pearl	27	1,000	5. Compton's Early	26	250
3. Cloud's Early Yellow	26	1,799	6. Early Butler	23	1,520

An average crop of 27 tons 46 lbs. per acre.

The six varieties of Indian Corn which have given the heaviest crops in 1899, taking the average of the results obtained on all the experimental farms, are as follows :—

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Red Cob Ensilage	21	42	4. Angel of Midnight	17	848
2. Champion White Pearl	18	1,840	5. Cloud's Early Yellow	17	518
3. Early Mastodon	17	1,156	6. Compton's Early	17	504

An average crop of 18 tons 484 lbs. per acre.

The average weight, cut green, of all the varieties of Indian Corn tested at each of the experimental farms in 1899, was as follows :—At Ottawa, 17 tons 1,444 lbs. per acre ; Nappan, 11 tons 1,366 lbs. ; Brandon, 17 tons 809 lbs.; Indian Head, 9 tons 579 lbs.; and at Agassiz, 20 tons 757 lbs. The average return given by the whole of the varieties at all the farms was 15 tons 591 lbs. per acre.

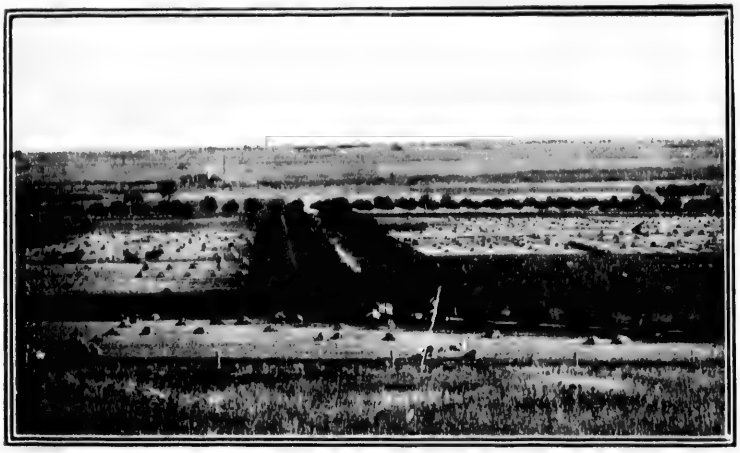

Fig. 1. Expimental plots of grain and roots at Brandon, Manitoba.

TRIAL PLOTS OF TURNIPS.

Twenty-five varieties of turnips were tested during 1899, sown on drills or on the flat in rows 2½ feet apart. Two sowings were made at each farm, the second two weeks later than the first. The dates of sowing in each case will be found in the accompanying table, the dates on which the roots were pulled were as follows :—At Ottawa, October 14 ; Nappan, October 25 ; Brandon, October 13 ; Indian Head, October 5 ; and at Agassiz, on October 24. The yield per acre in each case has been calculated from the weight of roots gathered from two rows, each 66 feet long.

UNIFORM TEST PLOTS OF TURNIPS.

Number.	Name of Variety.	Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.		Average of all Farms.	
		Sown May 12.	Sown May 26.	Sown May 23.	Sown June 7.	Sown May 20.	Sown June 3.	Sown May 23.	Sown May 29.	Sown May 15.	Sown May 29.	First Sowing.	Second Sowing.
		Per acre, Tons. Lbs.	Per acre, Tons. Lbs.	Per acre, Tons. Lbs.	Per acre, Tons. Lbs.	Per acre, Tons. Lbs.	Per acre, Tons. Lbs.	Per acre, Tons. Lbs.	Per acre, Tons. Lbs.	Per acre, Tons. Lbs.	Per acre, Tons. Lbs.	Per acre, Tons. Lbs.	Per acre, Tons. Lbs.
1	Purple Top Swede	34 1,300	30 1,050	33 1,650	27 450	15 1,020	14 50	25 1,315	18 795	51 135	51 630	32 264	28 795
2	Drummond Purple Top	34 310	21 570	27 450	26 800	11 1,100	12 750	25 490	19 1,105	41 170	43 1,780	27 1,704	24 1,401
3	Bangholm Selected	33 1,980	26 1,460	33 825	30 1,050	17 1,310	13 730	29 905	21 1,880	58 1,645	45 420	34 1,333	27 1,110
4	Skirvings	33 1,980	30 1,710	30 555	29 200	17 980	15 690	23 530	20 580	44 945	42 975	29 1,708	25 1,253
5	Prize Winner	33 1,980	26 1,790	32 505	29 105	14 1,700	13 1,720	19 1,430	21 1,560	51 1,125	50 320	30 1,048	28 690
6	Champion Purple Top	33 1,485	30 720	33 1,650	26 1,625	21 1,230	16 1,990	21 240	18 1,455	27 1,770	27 615	27 1,275	24 81
7	Selected Champion	33 1,320	27 1,440	27 1,675	26 800	15 1,020	14 1,370	23 1,025	22 1,870	53 1,910	48 855	30 1,790	28 67
8	Imperial Swede	33 990	27 120	33 825	28 1,750	18 960	11 770	20 425	18 465	50 980	48 30	31 436	26 1,427
9	Hardy Goliath	33 665	24 510	36 1,755	28 1,750	15 1,680	15 1,020	18 795	17 1,970	51 1,455	48 30	31 470	26 1,856
10	Jumbo	33 660	27 110	31 700	28 595	10 790	11 770	23 1,685	16 1,660	38 725	37 580	27 912	24 343
11	West Norfolk Red Top	33 165	30 720	32 845	30 225	13 730	12 1,740	18 300	21 1,725	35 1,280	31 370	26 1,064	25 556
12	Halewood's Bronze Top	33 165	30 1,050	37 250	25 1,950	16 1,560	12 1,740	27 285	21 240	50 1,640	48 1,080	32 1,908	27 1,732
13	Hall's Westbury	33	32 680	34 1,300	28 1,750	17 1,310	16 1,000	22 1,705	20 1,250	39 870	37 250	29 1,407	27 186
14	Mammoth Clyde	33	23 860	33 1,650	28 1,750	23 1,850	20 580	25 1,150	22 715	46 400	48 1,845	32 1,010	28 1,562
15	East Lothian	32 680	24 510	33 825	30 225	17 320	11 1,100	20 1,085	21 1,560	52 610	47 1,040	31 304	27 87
16	Shamrock Purple Top	32 680	27 1,020	33 1,650	25 1,950	17 1,970	14 50	19 1,600	20 1,085	44 780	39 540	29 1,336	25 929
17	Perfection Swede	30 1,380	28 1,760	37 250	30 1,875	15 360	20 1,250	24 1,005	24 1,830	58 1,975	51 795	33 594	31 702
18	Prize Purple Top	30 1,050	24 1,500	36 105	31 370	17 1,310	17 650	23 1,335	21 735	52 1,600	50 1,640	32 284	29 179
19	New Arctic	30 60	25 820	31 1,525	30 225	13 400	9 1,800	18 1,620	16 1,060	50 320	42 1,305	28 1,585	24 1,830
20	Marquis of Lorne	29 1,400	22 880	32 350	26 800	9 480	12 420	22 1,540	16 1,330	46 1,720	40 1,840	28 208	23 1,454
21	Carter's Elephant	26 690	24 1,500	30 555	30 225	21 570	12 750	16 1,495	16 1,000	47 1,370	44 448	28 936	25 1,184
22	Monarch	24 840	21 900	36 105	31 1,195	18 1,950	10 1,450	16 835	17 1,310	34 1,630	31 370	26 272	22 1,045
23	Giant King	21 1,890	21 900	30 555	25 1,975	13 1,720	11 1,100	20 1,250	17 1,640	46 895	55 890	26 1,262	26 1,250
24	Sutton's Champion	21 1,139	18 1,950	26 1,625	25 655	10 790	9 1,800	15 1,515	22 1,705	56 1,190	46 1,555	26 450	24 1,583
25	Hartley's Bronze	18 630	19 1,600	33 825	27 1,605	22 880	18 1,290	21 1,560	21 1,065	45 90	43 1,450	28 397	26 602

The crops from the two sowings of turnips at the experimental farms in 1899, have averaged per acre as follows :—

	Tons.	Lbs.
Central Experimental Farm, first sowing	30	1,497
" " second sowing	25	1,925
Experimental Farm, Nappan, first sowing	32	1,160
" " second sowing	28	836
" Brandon, first sowing	16	637
" " second sowing	14	23
" Indian Head, first sowing	21	1,665
" " second sowing	15	1,898
" Agassiz, first sowing	48	1,416
" " second sowing	44	169

Average crop from all the plots at all the farms, first sowing, 30 tons 74 lbs. ; second sowing, 25 tons 1,370 lbs. per acre.

The six varieties of turnips which have given the heaviest crops at the several experimental farms during the season of 1899, are the following. (Where not otherwise stated, the quantities given are all from the early sown plots):—

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Purple Top Swede	34	1,300	4. Skirving's	33	1,980
2. Drummond Purple Top	34	310	5. Prize Winner	33	1,980
3. Bangholm Selected	33	1,980	6. Champion Purple Top	33	1,485

An average crop of 34 tons 172 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Halewood's Bronze Top	37	250	4. Prize Purple Top	36	105
2. Perfection Swede	37	250	5. Monarch	36	105
3. Hardy Goliath	36	1,755	6. Hall's Westbury	34	1,300

An average crop of 36 tons 627 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Mammoth Clyde	23	1,850	4. Carter's Elephant	21	570
2. Hartley's Bronze	22	880	5. Perfection Swede (2nd sowing)	20	1,250
3. Champion Purple Top	21	1,230	6. Monarch	18	1,950

An average crop of 21 tons 988 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Bangholm Selected	29	905	4. Mammoth Clyde	25	1,150
2. Halewood's Bronze Top	27	285	5. Drummond Purple Top	25	490
3. Purple Top Swede	25	1,315	6. Perfection Swede	24	1,830

An average crop of 26 tons 662 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Perfection Swede	58	1,975	4. Giant King (2nd sowing)	55	880
2. Bangholm Selected	58	1,645	5. Selected Champion	53	1,910
3. Sutton's Champion	56	1,190	6. Prize Purple Top	52	1,600

An average crop of 56 tons 200 lbs. per acre.

The six varieties of turnips which have produced the heaviest crops, in 1899, taking the average of the results obtained on all the experimental farms, are the following :—

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Bangholm Selected	34	1,333	4. Mammoth Clyde..	32	1,010
2. Perfection Swede..	33	594	5. Prize Purple Top.....	32	284
3. Halewood's Bronze Top.....	32	1,968	6. Purple Top Swede..... ...	32	264

An average crop of 32 tons 1,909 lbs. per acre.

The early sown plots have given this year the larger crops at all the experimental farms. The average results from all the farms show a difference of 4 tons 704 lbs. per acre in favour of the early sowings.

TRIAL PLOTS OF MANGELS.

Twenty varieties of mangels have been under test during 1899, all sown on drills or on the flat, in rows, 2½ feet apart. Two sowings were made at each of the experimental farms, the second sowing two weeks later than the first, excepting that at Brandon where only one sowing was made. The dates of sowing will be found in the accompanying table, the dates on which the roots were pulled were the following : at Ottawa, October 13 ; Nappan, October 10 and 11 ; Brandon, October 13 ; Indian Head, October 4 and at Agassiz on October 24. The yield per acre in each case has been calculated from the weight of roots gathered from two rows, each 66 feet long.

UNIFORM TEST PLOTS OF MANGELS.

Number.	Name of Variety.	Ottawa, Ont.		Nappan, N.S.		Brandon, Man.	Indian Head, N.W.T.		Agassiz, B.C.		Average of all Farms.	
		Sown May 11.	Sown May 25.	Sown May 20.	Sown June 5.	Sown May 20.	Sown May 23.	Sown May 30.	Sown April 24.	Sown May 9.	First Sowing.	Second Sowing.
		Per acre. Tons. lbs.	Per acre. Tons. lbs.	Per acre. Tons. lbs.	Per acre. Tons. lbs.	Per acre. Tons. lbs.	Per acre. Tons. lbs.	Per acre. Tons. lbs.	Per acre. Tons. lbs.	Per acre. Tons. lbs.	Per acre. Tons. lbs.	Per acre. Tons. lbs.
1	Gate Post	34 640	22 880	28 1,750	30 555	18 630	29 1,235	38 1,715	41 170	39 540	30 885	32 1,272
2	Mamm. Long Red	33 1,980	21 405	22 1,375	21 1,725	34 1,630	24 1,665	21 75	42 480	48 1,925	31 1,418	28 542
3	Canadian Giant	33 330	21 1,890	20 1,250	21 900	12 750	24 1,830	18 465	34 640	33 1,980	25 160	23 1,809
4	Prize Mamm. Long Red	33 330	20 260	21 75	22 550	33	21 405	20 920	48 525	36 270	31 667	24 1,560
5	Selected Mamm. Long Red	33 330	18 300	21 1,725	28 925	32 1,010	29 80	20 1,685	41 1,160	33 1,650	31 1,261	25 490
6	Giant Yellow Globe	32 350	21 75	17 650	20 425	27 450	28 1,420	30 330	37 1,240	36 1,920	28 1,222	27 202
7	Yellow Intermediate	31 370	18 1,620	30 225	29 905	35 620	35 1,940	22 1,375	66 1,750	55 1,870	39 1,781	31 1,442
8	Ward's Large Oval Shaped	30 1,470	14 1,205	27 450	30 225	33 1,320	30 720	25 160	53 1,185	51 1,620	35 145	30 802
9	Lion Yellow Intermediate	30 60	19 1,765	20 1,250	30 225	31 640	25 820	26 1,295	51 300	47 1,855	32 614	31 285
10	Giant Yellow Intermediate	29 1,565	20 260	30 1,878	26 1,625	33 1,650	24 675	24 1,170	49 1,165	39 540	33 1,386	27 1,398
11	Giant Yellow Half Long	29 1,400	19 610	20 1,250	27 1,605	31 1,630	29 1,565	22 55	51 1,125	50 1,310	32 1,106	29 1,895
12	Champion Yellow Globe	27 1,450	16 1,660	18 1,125	17 1,475	8 1,490	32 1,340	18 795	24 1,830	24 1,605	22 1,017	19 484
13	Mamm. Yellow Intermediate	25 1,315	16 1,010	27 1,275	26 1,625	33 ..	24 1,335	19 1,270	41 1,160	33 1,650	30 1,017	24 389
14	Gate Post Yellow	25 820	14 215	18 1,125	17 1,475	14 1,700	17 1,475	18 1,455	38 1,388	37 250	23 101	21 1,849
15	Mamm. Oval Shaped	25 160	13 1,940	25 325	29 1,400	33 660	25 1,795	18 135	29 410	24 675	27 1,470	21 1,037
16	Warden Orange Globe	23 230	11 1,265	25 1,975	25 1,025	25 1,810	21 1,230	23 365	29 1,400	27 285	25 529	21 1,735
17	Norbiton Giant	23 200	15 360	29 1,400	29 1,400	35 620	27 1,275	31 535	25 1,480	28 1,420	28 595	26 429
18	Yellow Fleshed Tankard	20 1,250	15 695	16 1,825	20 95	31 700	30 885	18 795	41 560	42 975	28 232	24 140
19	Golden Fleshed Tankard	19 1,600	15 1,680	26 1,365	21 1,725	24 1,500	27 780	23 1,685	25 1,480	34 970	24 1,745	23 1,765
20	Red Fleshed Tankard	18 740	14 50	18 1,125	20 1,250	28 100	23 35	23 1,685	37 250	32 1,670	25 50	22 1,664

The crops from the two sowings of mangels at the experimental farms in 1899 have averaged per acre as follows:—

	Tons.	Lbs.		Tons.	Lbs.
Central Experimental Farm, first sowing	28	85	Experimental Farm, Indian Head, first sowing	26	1,525
" " second sowing	17	1,107	" " second sowing	23	571
Experimental Farm, Nappan, first sowing	23	970	Experimental Farm, Agassiz, first sowing	40	1,181
" " second sowing	24	1,855	" " second sowing	38	19
Experimental Farm, Brandon, one sowing only	28	248			

Average crop from all the plots at all the farms—first sowing, 29 tons 802 lbs.; second sowing, 25 tons 1,888 lbs.

The six varieties of mangels which have produced the heaviest crops at the several experimental farms during 1899 are the following. (Unless otherwise stated the yields given are all from the earliest sown plots.)

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Gate Post	34	640	4. Selected Mamm. Long Red	33	330
2. Mammoth Long Red	33	1,980	5. Giant Yellow Globe	32	350
3. Canadian Giant	33	330	6. Yellow Intermediate	31	370

An average crop of 33 tons per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre. Tons.	Lbs.		Per acre. Tons	Lbs.
1. Giant Yellow Intermediate	30	1,878	4. Lion Yellow Intermediate	30	225
2. Gate Post	30	555	5. Ward's Large Oval Shaped	30	225
3. Yellow Intermediate	30	225	6. Norbiton Giant	29	1,400

An average crop of 30 tons 418 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Norbiton Giant	35	620	4. Lion Yellow Intermediate	34	640
2. Yellow Intermediate	35	620	5. Giant Yellow Intermediate	33	1,650
3. Mammoth Long Red	34	1,650	6. Ward's Large Oval Shaped	33	1,320

An average crop of 34 tons 1,080 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Gate Post (2nd sowing)	38	1,715	4. Norbiton Giant (2nd sowing)	31	535
2. Yellow Intermediate	35	1,940	5. Yellow Fleshed Tankard	30	885
3. Champion Yellow Globe	32	1,340	6. Ward's Large Oval Shaped	30	720

An average crop of 33 tons 532 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Yellow Intermediate	66	1,750	4. Lion Yellow Intermediate	51	300
2. Ward's Large Oval Shaped	53	1,185	5. Giant Yellow Intermediate	49	1,165
3. Giant Yellow Half Long	51	1,125	6. Mamm. Long Red	48	1,925

An average crop of 53 tons 1,241 lbs. per acre.

The six varieties of mangels which have produced the heaviest crops in 1899 taking the average of the results obtained on all the experimental farms are

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Yellow Intermediate	39	1,781	4. Giant Yellow Half Long	32	1,406
2. Ward's Large Oval Shaped	35	145	5. Gate Post (2nd sowing)	32	1,272
3. Giant Yellow Intermediate	33	1,386	7. Lion Yellow Intermediate	32	614

An average crop of 34 tons 767 lbs. per acre.

The early sown plots of mangels have given larger crops than those later sown at all the experimental farms excepting at Nappan where the advantage has been with the second sowing to the extent of 1 ton 855 lbs. per acre. The average results from all the farms show a difference of 3 tons 904 lbs. per acre in favour of the early sowings.

TRIAL PLOTS OF CARROTS.

Twenty varieties of carrots were under test during 1899 all sown in drills or on the flat in rows two feet apart. Two sowings were made in each case, the second sowing two weeks later than the first. The dates of sowing will be found in the accompanying table, the dates on which the roots were pulled were the following: At Ottawa, October 13; Nappan, October 11; Brandon, October 13; Indian Head, October 4, and at Agassiz on October 24. The yield per acre in each case has been calculated from the weight of roots gathered from two rows each 66 feet long.

UNIFORM TEST PLOTS OF CARROTS.

Number.	Name of Variety.	Ottawa, Ont.				Nappan, N.S.				Brandon, Man.				Indian Head, N.W.T.				Agassiz, B.C.				Average of all Farms.			
		Sown May 11.		Sown May 25.		Sown May 23.		Sown June 7.		Sown May 25.		Sown June 3.		Sown May 20.		Sown May 29.		Sown April 27.		Sown May 12.		First Sowing.		Second Sowing.	
		Per acre.		Per acre.		Per acre.		Per acre.		Per acre.		Per acre.		Per acre.		Per acre.		Per acre.		Per acre.		Per acre.		Per acre.	
		Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.
1	Iverson's Champion	33	660	33	.	21	1,725	17	1,805	17	980	14	1,370	19	610	15	690	29	1,400	28	1,970	24	675	21	1,967
2	Giant White Vosges	33	330	24	1,500	21	1,725	18	795	17	1,640	15	30	17	155	12	420	33	1,650	33	550	24	1,500	20	1,459
3	Improved Short White	33	..	31	700	22	1,375	17	650	15	360	12	1,740	19	1,270	15	690	33	220	25	1,700	24	1,445	20	1,096
4	Mamm. White Intermediate	32	1,340	32	20	21	900	16	1,705	19	610	13	1,390	14	1,205	14	710	33	440	30	1,600	24	499	21	1,054
5	New White Intermediate	32	680	28	1,420	22	1,375	18	795	17	1,640	10	790	16	1,000	13	1,060	29	300	33	440	23	1,399	20	1,701
6	Green Top White Orthe	28	1,750	24	1,830	17	650	15	1,845	16	1,330	12	1,080	16	835	14	50	27	1,220	26	1,570	21	757	18	1,675
7	Long Yellow Stump rooted	28	1,420	27	450	16	1,000	13	1,555	16	1,660	13	730	14	1,535	10	1,450	22	990	18	190	19	1,721	16	1,275
8	Ontario Champion	28	1,090	22	880	17	1,475	13	1,225	19	280	14	710	16	1,495	14	1,370	28	1,200	31	1,800	22	308	19	797
9	White Belgian	28	760	24	510	13	400	10	295	12	1,740	10	130	14	380	12	420	29	1,840	28	540	19	1,424	16	1,979
10	Half Long White	27	1,770	22	550	25	1,025	17	1,805	18	300	10	1,780	18	300	17	1,970	34	1,520	32	1,340	24	1,983	20	689
11	Guerande or Ox Heart	26	1,955	25	1,150	12	1,575	18	300	14	1,700	12	90	13	1,060	11	1,100	25	160	22	1,870	18	1,290	18	102
12	Early Gem	25	820	20	920	12	1,575	16	1,000	13	1,060	11	770	15	525	10	130	22	1,650	22	660	17	1,926	16	296
13	Half Long Chantenay	25	820	20	590	11	1,000	13	400	13	70	10	1,120	11	605	8	500	22	770	22	550	16	1,453	14	1,832
14	Yellow Intermediate	24	1,170	23	1,190	11	275	10	955	15	30	11	1,100	16	1,990	14	710	25	1,700	19	1,940	18	1,433	15	1,979
15	White Vosges Large Short	22	385	20	1,250	11	275	12	1,245	12	1,740	9	480	15	1,350	12	255	22	550	22	1,100	16	1,660	15	866
16	Scarlet Intermediate	19	940	15	360	10	625	9	1,305	11	770	9	1,140	9	1,305	7	1,510	16	1,440	18	1,400	13	1,016	12	343
17	Carter's Orange Giant	18	1,950	18	300	11	1,925	11	605	13	400	8	1,490	11	110	9	480	17	320	13	950	14	941	12	365
18	Long Orange or Surrey	17	1,310	16	1,990	11	1,000	10	1,945	12	750	10	1,450	9	1,635	9	1,800	25	160	17	650	15	571	13	367
19	Scarlet Nantes	16	1,000	12	1,245	10	1,450	9	1,305	8	1,820	6	1,860	8	500	3	1,920	11	110	10	1,340	11	176	8	1,534
20	Long Scarlet Altringham	14	380	13	70	12	1,575	10	295	6	1,860	5	1,220	10	460	8	560	18	1,400	16	1,220	12	1,135	10	1,461

The crops from the two sowings of carrots at the experimental farms in 1899 have averaged as follows:—

Central Experimental Farm, first sowing	25 tons	1,826 lbs.	Experimental Farm, Indian Head, first sowing	14 tons	916 lbs.
" second sowing	22 "	1,746 "	" second sowing	11 "	1,586 "
Experimental Farm, Nappan, first sowing	15 "	1,746 "	" Agassiz, first sowing	25 "	952 "
" " second sowing	14 "	291 "	" " second sowing	23 "	1,669 "
" Brandon, first sowing	14 "	1,337 "	Average crop from all the plots at all the farms, first sowing, 19 tons 555 lbs., second sowing, 16 tons 1,543 lbs.		
" " second sowing	11 "	423 "			

The six varieties of carrots which have produced the heaviest crops at the several experimental farms during 1899 are the following, (unless otherwise stated the yields given are all from the earliest sown plots).

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Iverson's Champion	33	660	4. Mamm. White Intermediate.	32	1,340
2. Giant White Vosges	33	330	5. New White Intermediate	32	680
3. Improved Short White	33	—	6. Green Top White Orthe	28	1,750

An average crop of 32 tons 46 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Half Long White	25	1,025	4. Iverson's Champion	21	1,725
2. Improved Short White	22	1,375	5. Giant White Vosges	21	1,725
3. New White Intermediate	22	1,375	6. Mamm. White Intermediate.	21	900

An average crop of 22 tons 1,354 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Mamm. White Intermediate.	19	610	4. Giant White Vosges	17	1,640
2. Ontario Champion.	19	280	5. New White Intermediate	17	1,640
3. Half Long White	18	300	6. Iverson's Champion	17	980

An average crop of 18 tons 575 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Improved Short White.	19	1,270	4. Giant White Vosges	17	155
2. Iverson's Champion	19	610	5. Yellow Intermediate	16	1,990
3. Half Long White	18	300	6. Ontario Champion	16	1,495

An average crop of 17 tons 1,970 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Half Long White	34	1,520	5. Improved Short White	33	220
2. Giant White Vosges.	33	1,650	6. Ontario Champion, 2nd sowing	31	1,800
3. Mamm. White Intermediate.	33	440			
4. New White Intermediate, 2nd sowing	33	440			

An average crop of 33 tons 678 lbs. per acre.

The six varieties of carrots which have produced the heaviest crops in 1899 taking the average of the results obtained on all the experimental farms are the following :—

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Half Long White	24	1,983	4. Iverson's Champion	24	675
2. Giant White Vosges.	24	1,500	5. Mamm. White Intermediate	24	499
3. Improved Short White	24	1,445	5. New White Intermediate	23	1,399

An average crop of 24 tons 917 lbs. per acre.

The early sown plots of carrots have given larger crops than those later sown at all the experimental farms. The average results from all the farms show a difference in the crops of 1899 of 2 tons 1,012 lbs. per acre in favour of the early sowings.

TRIAL PLOTS OF SUGAR BEETS.

Six varieties of sugar beets have been tested during 1899, sown in drills or on the flat in rows two feet apart Two sowings were made in each case, the second about two weeks later than the first. The dates of sowing will be found in the accompanying table. The following are the dates on which the roots were pulled :—At Ottawa, October 13 ; Nappan, October 10 and 11; Indian Head, October 4, and at Agassiz on October 24. The yield per acre in each instance has been calculated from the weight of roots gathered from two rows, each 66 feet long.

UNIFORM TEST PLOTS OF SUGAR BEETS.

Number.	Name of Variety.	Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.		Average of all Farms.	
		Sown May 19.	Sown May 25.	Sown May 23.	Sown June 7.	Sown May 20.	Sown June 3.	Sown May 25.	Sown June 2.	Sown April 25.	Sown May 9.	First Sowing.	Second Sowing.
		Per acre	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.	Per acre.
		Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.	Tons. Lbs.
1	Wanzleben	28 1,585	18 1,950	19 1,600	21 77	34 1,630	*	15 1,845	14 710	25 160	24 1,500	24 1,764	19 1,559
2	Improved Imperial	27 450	18 1,950	18 1,125	17 153	26 1,130	20 920	12 1,740	13 1,060	28 210	25 1,370	22 1,331	19 291
3	Vilmorin's Improved	26 800	15 690	22 555	17 1,475	26 1,460	15 690	13 235	15 690	26 250	25 1,480	22 1,860	17 1,805
4	Danish Improved	21 1,230	16 1,990	17 1,475	18 1,125	34 970	20 590	22 550	20 920	29 960	29 310	25 237	21 187
5	Danish Red Top	19 1,270	19 1,270	26 800	25 325	30 1,710	27 1,770	13 1,225	12 420	33 110	28 1,860	24 1,423	22 1,529
6	Red Top Sugar	18 1,290	16 1,660	24 1,500	23 1,355	25 1,810	22 220	10 625	11 1,100	18 1,860	23 1,080	19 1,417	19 1,083

*This sowing at Brandon was omitted.

The crops from the two sowings of sugar beets at the experimental farms have averaged as follows :—

	tons.	lbs.
Central Experimental Farm, first sowing	23	1,437
" " " second sowing	17	1,585
Experimental Farm, Nappan, first sowing	21	1,175
" " " second sowing	20	1,085
Experimental Farm, Brandon, first sowing	29	285
" " " second sowing	21	438
Experimental Farm, Indian Head, first sowing	14	1,370
" " " second sowing	14	1,150
Experimental Farm, Agassiz, first sowing	26	1,591
" " " second sowing	26	600

Average crop from all the plots at all the farms: first sowing, 23 tons 371 lbs.; second sowing, 20 tons 171 lbs. per acre.

The four varieties of sugar beets which have produced the heaviest crops at the several experimental farms in 1899 are the following. (Unless otherwise stated, the yields given are all from the earliest sown plots):—

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Wanzleben	28	1,585	3. Vilmorin's Improved	26	800
2. Improved Imperial	27	450	4. Danish Improved	21	1,230

An average crop of 26 tons 16 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Danish Red Top	26	800	3. Vilmorin's Improved	22	555
2. Red Top Sugar	24	1,560	4. Wanzleben, 2nd sowing	21	75

An average crop of 23 tons 1,232 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Wanzleben	34	1,630	3. Danish Red Top	30	1,710
2. Danish Improved	34	970	4. Vilmorin's Improved	26	1,460

An average crop of 31 tons 961 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Danish Improved	22	550	3. Vilmorin's Improved, 2nd sowing	15	690
2. Wanzleben	15	1,845	4. Danish Red Top	13	1,225

An average crop of 16 tons 1,577 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Danish Red Top	33	110	3. Improved Imperial	28	210
2. Danish Improved	29	960	4. Vilmorin's Improved	26	250

An average crop of 29 tons 382 lbs. per acre.

The four varieties of sugar beets which have produced the heaviest crops in 1899, taking the average of the results obtained at all the experimental farms, are the following:—

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Danish Improved	25	237	3. Danish Red Top	24	1,423
2. Wanzleben	24	1,764	4. Vilmorin's Improved	22	1,860

An average crop of 24 tons 821 lbs. per acre.

The early sown plots of sugar beets have given larger crops than those later sown at all the experimental farms. The average results from all the farms show a difference in the crops of 1899 of 3 tons 200 lbs. per acre in favour of the early sowing.

TRIAL PLOTS OF POTATOES.

One hundred and six varieties of potatoes have been under trial in uniform test plots during 1899. The potatoes for planting were cut into pieces with two or three eyes in each, and these were planted in rows 2½ feet apart, the sets being placed a foot apart in the rows. The following were the dates of planting and digging:—At Ottawa, planted on May 22 and 23, dug October 5 to 7; Nappan, planted May 25, dug September 22 to 25; Brandon, planted, May 23, dug October 2; Indian Head, planted May 25, dug September 28; and at Agassiz, planted from May 13 to 22, dug September 28 to October 4. The yield per acre has been calculated in each case from the weight of tubers gathered from two rows, each 66 feet long.

UNIFORM TEST PLOTS OF POTATOES.

Number.	Name of Variety.	Yield at the Several Experimental Farms, Season of 1899.									
		Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.		Average of all Farms.	
		Per acre. Bush.	Lbs.	Per acre. Bush.	Lbs.	Per acre. Bush.	Lbs.	Per acre. Bush.	Lbs.	Per acre. Bush.	Lbs.	Per acre. Bush.	Lbs.
1	American Wonder.	640	12	391	36	*		453	45	228	48	428	35
2	Holborn Abundance	609	24	473	..	319	..	233	45	330	..	393	10
3	Everett	574	12	484	.	275	..	261	15	369	36	392	48
4	Carman No. 1	541	12	420	12	330	..	346	30	243	38	376	18
5	Maggie Murphy	541	12	261	48	333	40	154	..	363	44	330	53
6	White Beauty	534	36	250	48	289	40	321	45	372	30	353	52
7	Hale's Champion	532	24	473	..	287	50	126	30	365	12	356	59
8	Vanier	530	12	473	..	333	40	302	30	291	52	386	15
9	Seattle	528	..	402	36	*		288	45	291	8	377	35
10	New Queen	521	24	288	12	275	..	251	45	278	42	323	1
11	Wonder of the World	514	48	371	48	209	..	242	..	353	28	338	12
12	Lizzie's Pride	506	..	411	24	330	..	247	30	321	12	363	13
13	Empire State	500	30	448	48	*		225	30	362	16	384	16
14	Beauty of Hebron	500	24	286	..	242	..	330	..	180	24	307	45
15	Seedling No. 230	495	..	550	.	293	20	280	30	368	8	397	23
16	Early Sunrise	492	48	396	..	194	20	354	45	289	20	345	26
17	State of Maine	488	24	330	..	320	50	269	30	282	20	338	13
18	Early Rose	484	..	424	36	282	20	233	45	237	36	332	27
19	Ideal	481	48	341	..	*		220	..	.....	....	347	36
20	Lightning Express	479	36	360	48	293	20	198	..	277	12	321	47
21	Early White Prize	475	12	323	24	245	40	261	15	266	10	314	20
22	Brown's Rot Proof	473	..	327	48	293	20	.....	....	384	16	369	36
23	Monroe County	473	..	259	36	*		167	45	359	20	314	55
24	Burnaby Seedling	468	36	409	12	370	20	412	30	334	24	399	..
25	Polaris	464	12	380	36	*		250	15	397	16	373	5
26	Chicago Market	459	48	275	..	293	20	228	30	286	..	308	31
27	Vick's Extra Early	457	36	347	36	190	40	275	..	264	..	306	52
28	Earliest of All	455	24	402	36	242	..	250	15	356	14	341	18
29	Seedling No. 7	453	12	354	12	275	..	137	30	225	52	289	9
30	Good News	453	12	402	36	311	40	228	15	319	44	343	5
31	American Giant	453	12	534	36	326	20	338	15	215	36	373	36
32	Early Norther	453	12	376	12	*		.....	....	265	30	364	58
33	Penn. Manor	453	12	477	24	377	40	220	..	288	50	363	25
34	Columbus	451	..	455	24	*		324	30	205	20	359	4
35	Ohio Junior	451	..	319	..	242	..	151	15	375	28	307	45
36	Thorburn	448	48	264	..	253	..	222	45	388	40	315	27
37	Northern Spy	448	48	369	36	311	40	206	15	315	20	333	20
38	Sir Walter Raleigh	448	48	363	..	282	20	200	45	190	40	297	7
39	Great Divide	442	12	492	48	300	40	187	..	251	16	334	47
40	Sharpe's Seedling	441	6	248	36	201	40	288	45	403	20	316	41
41	Satisfaction	440	..	343	12	322	40	225	30	312	24	328	45
42	Early Harvest	437	48	451	..	117	20	302	30	305	4	322	44
43	Peerless Junior	437	48	299	12	278	40	275	..	231	18	304	24
44	Orphans	437	48	360	48	*		206	15	271	20	319	3
45	Honeoye Rose	437	48	250	48	.....	..	143	..	295	32	281	45
46	General Gordon	433	24	453	12	344	40	233	45	308	44	354	45

Injured from flooding.

UNIFORM TEST PLOTS OF POTATOES.

YIELD AT THE SEVERAL EXPERIMENTAL FARMS, SEASON OF 1899.

Number.	Name of Variety.	Ottawa, Ont.		Nappan, N.S.		Brandon, Man.		Indian Head, N.W.T.		Agassiz, B.C.		Average of all Farms.	
		Per acre. Bush.	Lbs.	Per acre. Bush.	Lbs.	Per acre. Bush.	Lbs.	Per acre. Bush.	Lbs.	Per acre. Bush.	Lbs.	Per acre. Bush.	Lbs.
47	Burpee's Extra Early	431	12	400	24	220	..	305	15	331	28	337	40
48	King of the Roses	431	12	290	24	275	.	258	30	265	..	304	1
49	Rochester Rose	431	12	367	24	*		343	45	285	20	356	55
50	Clay Rose	429	.	457	36	381	20	275	.	266	22	361	52
51	Hopeful	426	48	420	12	311	40	129	15	360	48	329	45
52	Early Ohio	426	48	380	36	190	40	206	15	266	44	294	13
53	Dreer's Standard	424	36	332	12	355	40	247	30	354	56	342	59
54	Maule's Thoroughbred	422	24	211	12	377	40	173	15	344	20	305	46
55	Seedling No. 230	418	12	.....	..	*		280	30	368	..	355	34
56	Pride of the Table	418	..	184	48	....	.	261	15	265	..	282	16
57	Green Mountain	418	..	380	36	340	.	200	45	322	40	330	24
58	Dakota Red	415	48	336	36	315	20	214	30	371	48	330	48
59	Uncle Sam	411	24	325	36	260	20	302	30	349	4	329	47
60	Delaware	411	24	325	36	403	20	192	30	212	40	309	6
61	London	409	12	334	24	242	..	206	15	350	32	308	20
62	Stourbridge Glory	409	12	334	24	185	20	250	15	346	8	304	40
63	Rural Blush	409	12	380	36	330	..	247	30	310	56	335	39
64	Prize Taker	407	..	264	..	205	20	316	15	234	40	285	27
65	L. X. L.	404	48	409	12	293	20	280	30	244	12	326	24
66	Reeves' Rose	404	48	433	24	322	40	269	30	215	36	329	12
67	Freeman	400	24	367	24	333	40	219	.	298	28	323	47
68	New Variety No. 1	396	..	418	..	264	..	203	30	387	12	331	44
69	Troy Seedling	396	..	407	..	388	40	233	45	327	6	350	30
70	Crown Jewel	393	48	321	12	256	40	302	30	341	44	323	11
71	Clarke's No. 1	391	56	407	..	319	..	269	30	303	36	338	12
72	Rose No. 9	391	36	336	36	187	..	275	.	371	4	312	15
73	Flemish Beauty	391	36	462	.	330	..	294	15	250	48	345	45
74	Pearce's Extra Early	389	24	283	48	*		247	30	176	..	274	11
75	Money Maker	389	24	308	..	293	20	192	30	283	48	293	24
76	Late Puritan	389	24	321	12	319	..	288	45	294	4	322	29
77	Rural No. 2	387	12	272	48	234	40	206	15	231	40	266	31
78	Bovee	385	..	534	36	256	40	390	30	343	12	382	.
79	Early Gem	382	48	387	12	311	40	217	15	181	52	296	9
80	Irish Cobbler	382	48	501	36	201	40	211	45	233	56	306	21
81	Carman No. 3	380	36	220	..	311	40	302	30	222	56	287	32
82	Pearce's Prize Win'r.	377	18	345	24	297	..	302	30	177	28	299	56
83	Early Puritan	369	36	312	24	330	..	244	45	387	12	328	47
84	Daisy	365	12	259	36	132	..	244	45	283	..	256	54
85	McKenzie	358	36	453	12	330	.	203	30	297	44	328	36
86	Cambridge Russet	358	36	316	48	183	20	187	..	269	30	263	3
87	World's Fair	343	12	325	36	*		247	30	269	52	296	33
88	Irish Daisy	334	24	429	..	388	40	236	30	428	16	363	22
89	Early Six Weeks	327	48	433	24	297	..	247	30	212	40	303	41
90	Charles Downing	327	48	281	36	275	..	123	45	462	..	293	62
91	Harbinger	319	.	365	12	264	..	195	15	281	30	284	59
92	Reading Giant	316	48	424	36	245	40	206	15	356	14	309	55
93	Lee's Favourite	316	48	349	48	282	20	228	15	363	..	308	2
94	Country Gentleman	314	36	565	24	165	..	....	..	294	28	334	52
95	Bill Nye	310	12	385	..	333	40	371	15	337	20	347	29
96	Table King	292	36	294	48	121	..	206	15	218	32	226	38
97	Queen of the Valley	290	24	253	..	275	..	280	30	284	30	276	41
98	Quaker City	283	48	413	36	311	40	272	15	242	..	304	49
99	Algoma No. 1	283	48	402	36	*		170	30	249	20	276	34
100	Victor Rose	259	36	374	..	260	20	302	30	277	56	294	52
101	Fillbasket	246	24	211	12	*		192	30	179	18	207	21
102	Pride of the Market	235	24	506	..	275	..	302	30	381	20	340	3
103	Early Market	224	24	235	34	198	..	167	45	280	..	221	9
104	Brownell's Winner	220	..	325	36	320	..	352	..	266	10	298	45
105	Seedling No. 214	209	.	314	36	128	20	220	..	265	40	227	31
106	Houlton Rose	204	36	323	24	*		244	45	296	16	267	15

* Injured from flooding.

The twelve varieties of potatoes which have produced the largest crops at the several experimental farms are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT.

	Per acre. Bush.	Lbs.		Per acre Bush.	Lbs.
1. American Wonder	640	12	7. Hale's Champion	532	24
2. Holborn Abundance	609	24	8. Vanier	530	12
3. Everett	574	12	9. Seattle	528	..
4. Carman No. 1	541	12	10. New Queen	521	24
5. Maggie Murphy	541	12	11. Wonder of the World	514	48
6. White Beauty	534	36	12. Lizzie's Pride	506	..

An average crop of 547 bushels 47 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Seedling No. 230	550	..	7. American Beauty	492	48
2. American Giant	534	36	8. Everett	484	..
3. Bovee	534	36	9. Holborn Abundance	473	..
4. Pride of the Market	506	..	10. Hale's Champion	473	..
5. Irish Cobbler	501	36	11. Vanier	473	..
6. Great Divide	492	48	12. Flemish Beauty	462	..

An average crop of 498 bushels 7 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Delaware	403	20	7. Dreer's Standard	355	40
2. Irish Daisy	388	40	8. General Gordon	344	40
3. Troy Seedling	388	40	9. Vanier	333	40
4. Clay Rose	387	20	10. Maggie Murphy	333	40
5. Maule's Thoroughbred	377	40	11. Freeman	333	40
6. Burnaby Seedling	370	20	12. Bill Nye	333	40

An average crop of 362 bushels 35 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. American Wonder	453	45	7. Carman No. 1	346	30
2. Burnaby Seedling	412	30	8. Rochester Rose	343	45
3. Bovee	390	30	9. American Giant	338	15
4. Bill Nye	371	15	10. Beauty of Hebron	330	..
5. Early Sunrise	354	45	11. Columbus	324	30
6. Brownell's Winner	352	..	12. White Beauty	321	45

An average crop of 361 bushels 37 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Charles Downing	462	..	7. New Variety No. 1	387	12
2. Irish Daisy	428	16	8. Brown's Rot Proof	384	16
3. Sharpe's Seedling	403	20	9. Pride of the Market	381	20
4. Polaris	397	16	10. Ohio Junior	375	28
5. Thorburn	388	40	11. White Beauty	372	30
6. Early Puritan	387	12	12. Dakota Red	371	48

An average crop of 394 bushels 56 lbs. per acre.

The twelve varieties of potatoes which have produced the largest crops in 1899, taking the average of the results obtained at all the experimental farms, are the following :-

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. American Wonder	428	35	7. Empire State	384	16
2. Burnaby Seedling	399	..	8. Bovee	382	..
3. Seedling No. 230	397	23	9. Seattle	377	35
4. Holborn Abundance	393	10	10. Carman No. 1	376	18
5. Everett	392	48	11. American Giant	373	30
6. Vanier	386	15	12. Polaris	373	5

An average crop of 386 bushels 40 lbs per acre.

The average crop of all the varieties of potatoes tested at each of the experimental farms was as follows :— At Ottawa, 414 bushels 33 lbs. per acre ; Nappan, 363 bushels 22 lbs.; Brandon, 279 bushels 48 lbs.; Indian Head, 250 bushels 55 lbs.; and at Agassiz, 298 bushels 5 lbs. The average return given by the whole of the varieties at all the farms was 321 bushels 20 lbs. per acre.

AVERAGE OF CROPS FOR THE PAST FOUR AND FIVE YEARS.

The results of experiments with varieties of grain to ascertain their relative productiveness become much more reliable and conclusive when the average experience of a series of years can be given. In this way slight variations arising from inequality of soil are to a large extent equalized, and the conclusions reached become a much more valuable guide to the farmer in his selection of seed. The longer the experiments are continued the more accurate are the indications given. The experiences here recorded with most of the more important cereals now cover a period of five years.

Fig. 2. Experimental plots of Oats at Ottawa, Ont.

FIVE YEARS' EXPERIENCE WITH VARIETIES OF OATS.

The twelve varieties of oats which have averaged the heaviest crops at the several experimental farms during the past five years are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Banner	69	23	7. Joanette	63	4
2. American Triumph	67	7	8. American Beauty	63	2
3. Columbus	66	31	9. Holstein Prolific	62	32
4. Golden Giant	65	28	10. Abundance	61	31
5. Golden Beauty	65	1	11. Bavarian	61	15
6. Improved Ligowo	63	5	12. White Russian	61	12

An average crop of 64 bushels 8 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. White Russian	72	4	7. Early Blossom	67	14
2. Wallis	71	23	8. Lincoln	67	6
3. Oderbruch	70	16	9. American Beauty	67	2
4. Banner	69	6	10. Pense	67	2
5. Abyssinia	68	..	11. Cream Egyptian	66	20
6. Columbus	67	30	12. Wide Awake	65	30

An average crop of 68 bushels 13 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. American Beauty	99	9	7. White Schonen	83	4
2. Banner	94	6	8. Golden Beauty	82	26
3. Bavarian	93	25	9. American Triumph	81	11
4. Early Golden Prolific	88	32	10. Abundance	78	4
5. Golden Giant	85	25	11. California Prolific Black	77	30
6. Holstein Prolific	83	26	12. Columbus	77	..

An average crop of 85 bushels 16 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Columbus	88	20	7. Bavarian	81	32
2. Holstein Prolific	87	8	8. White Schonen	81	17
3. American Beauty	86	31	9. Early Golden Prolific	81	16
4. Abundance	85	4	10. Early Archangel	80	32
5. Golden Beauty	83	24	11. American Triumph	80	30
6. Wide Awake	82	..	12. Banner	80	27

An average crop of 83 bushels 13 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Golden Giant	70	28	7. American Beauty	58	9
2. Banner	65	21	8. Prolific Black Tartarian	58	8
3. Lincoln	61	7	9. Columbus	58	..
4. Bavarian	61	6	10. Early Maine	57	24
5. Early Gothland	60	32	11. Oderbruch	56	30
6. Early Blossom	60	10	12. Holstein Prolific	56	26

An average crop of 62 bushels 2 lbs. per acre.

The twelve varieties of oats which have produced the largest average crops for the past five years on all the experimental farms, and hence may perhaps be regarded as worthy of being placed at the head of the list for general cultivation, are the following:—

	Per acre.			Per acre.	
	Bush.	Lbs.		Bush.	Lbs.
1. Banner	75	30	7. Holstein Prolific	69	23
2. American Beauty	74	31	8. Early Golden Prolific	69	4
3. Columbus	71	23	9. American Triumph	67	24
4. Golden Giant	71	12	10. Abundance	67	24
5. Bavarian	71	9	11. White Schonen	67	24
6. Golden Beauty	70	2	12. Wallis	67	23

An average crop of 70 bushels 13 lbs. per acre.

FIVE YEARS' EXPERIENCE WITH VARIETIES OF BARLEY.

TWO-ROWED BARLEY.

The six varieties of two-rowed barley which have averaged the heaviest crops at the several experimental farms during the past five years are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Sidney	41	40	4. Bolton	39	44
2. Danish Chevalier	41	40	5. Victor	39	34
3. Canadian Thorpe	41	28	6. Nepean	39	29

An average crop of 40 bushels 36 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Nepean	40	25	4. Beaver	38	20
2. Newton	39	..	5. Danish Chevalier	38	12
3. French Chevalier	38	40	6. Canadian Thorpe	36	32

An average crop of 38 bushels 29 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. French Chevalier	51	4	4. Newton	47	12
2. Sidney	49	30	5. Bolton	47	4
3. Nepean	47	24	6. Victor	45	16

An average crop of 47 bushels 46 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. French Chevalier	60	12	4. Prize Prolific	54	14
2. Danish Chevalier	58	24	5. Beaver	52	36
3. Canadian Thorpe	55	21	6. Sidney	52	32

An average crop of 55 bushels 31 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Canadian Thorpe	37	8	4. Kinver Chevalier	35	18
2. French Chevalier	36	12	5. Beaver	34	22
3. Danish Chevalier	35	28	6. Newton	33	.

An average crop of 35 bushels 14 lbs. per acre.

The six varieties of two-rowed barley which have produced the largest crops for the past five years, taking the average of the results obtained on all the experimental farms, are:—

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. French Chevalier	44	40	4. Canadian Thorpe	42	26
2. Danish Chevalier	42	41	5. Sidney	42	16
3. Beaver	42	39	6. Newton	41	23

An average crop of 42 bushels 39 lbs. per acre.

SIX-ROWED BARLEY.

The six varieties of six-rowed barley which have averaged the heaviest crops at the several experimental farms for the past five years are the following:

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Odessa	55	19	4. Pioneer	51	30
2. Mensury	53	26	5. Trooper	48	25
3. Royal	52	20	6. Stella	48	3

An average crop of 51 bushels 28 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Mensury	50	16	4. Trooper	42	4
2. Oderbruch	43	..	5. Surprise	42	..
3. Vanguard	42	24	6. Odessa	41	28

An average crop of 43 bushels 28 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Trooper	57	9	4. Nugent	53	30
2. Common	56	4	5. Summit	52	26
3. Mensury	55	8	6. Surprise	51	46

An average crop of 54 bushels 20 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Rennie's Improved	62	10	4. Trooper	58	16
2. Odessa	59	44	5. Common	57	35
3. Mensury	58	20	6. Baxter	57	30

An average crop of 59 bushels 2 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Oderbruch	35	3	4. Odessa	32	36
2. Mensury	34	4	5. Common	32	6
3. Royal	32	44	6. Trooper	31	19

An average crop of 33 bushels 2 lbs. per acre.

The six varieties of six-rowed barley which have produced the largest crops for the past five years, taking the average of the results obtained on all the experimental farms are:

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Mensury	50	15	4. Oderbruch	45	38
2. Trooper	47	24	5. Common	45	35
3. Odessa	47	24	6. Royal	45	34

An average crop of 47 bushels 4 lbs. per acre.

FIVE YEARS' EXPERIENCE WITH VARIETIES OF SPRING WHEAT.

The twelve varieties of spring wheat which have averaged the heaviest crops at the several experimental farms during the past five years are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Preston	27	24	7. Pringle's Champlain	23	40
2. Wellman's Fife	25	23	8. Stanley	23	16
3. Colorado	24	51	9. Huron	22	38
4. Rio Grande	24	42	10. Emporium	22	8
5. Monarch	24	7	11. Rideau	22	5
6. Goose	23	57	12. Percy	21	55

An average crop of 23 bushels 51 lbs. per acre

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Wellman's Fife	35	12	7. Stanley	31	24
2. Monarch	34	40	8. White Russian	31	16
3. White Connell	33	.	9. Rio Grande	31	12
4. Huron	32	56	10. Advance	30	44
5. Goose	32	40	11. Red Fern	30	28
6. Preston	32	4	12. Blenheim	30	16

An average crop of 32 bushels 9 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs
1. Goose	40	34	7. Pringle's Champlain	35	58
2. White Fife	39	4	8. White Connell	35	40
3. Crown	37	30	9. Rio Grande	35	30
4. Red Fife	37	10	10. White Russian	34	22
5. Monarch	37	4	11. Wellman's Fife	33	58
6. Preston	36	37	12. Advance	33	46

An average crop of 36 bushels 26 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre. Bush.	Lbs		Per acre. Bush.	Lbs.
1. Red Fife	41	38	7. White Fife	39	34
2. Wellman's Fife	40	24	8. Beaudry	39	30
3. Huron	40	6	9. Percy	39	22
4. Red Fern	39	50	10. Crown	38	46
5. Preston	39	48	11. Alpha	38	36
6. Emporium	39	38	12. Monarch	38	2

An average crop of 39 bushels 43 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre. Bush.	Lbs		Per acre. Bush.	Lbs
1. Preston	27	26	7. Red Fife	26	3
2. Monarch	26	40	8. White Fife	26	1
3. Herisson Bearded	26	38	9. White Connell	25	54
4. Rio Grande	26	24	10. Colorado	25	50
5. White Russian	26	20	11. Huron	25	30
6. Wellman's Fife	26	4	12. Red Fern	25	28

An average crop of 26 bushels 11 lbs. per acre.

The twelve varieties of spring wheat which have produced the largest crops for the past five years, taking the average of the results obtained on all the experimental farms, are:—

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Preston	32	40	7. White Connell	30	46
2. Wellman's Fife	32	12	8. Red Fife	30	42
3. Monarch	32	6	9. Huron	30	31
4. Goose	31	14	10. White Russian	30	28
5. White Fife	31	..	11. Pringle's Champlain	30	1
6. Rio Grande	30	53	12. Red Fern	29	50

An average crop of 31 bushels 7 lbs. per acre.

THREE AND FOUR YEARS' EXPERIENCE WITH VARIETIES OF PEASE.

The twelve varieties of pease which have averaged the heaviest crops at the several experimental farms for the past three or four years are the following. On account of the mixing of the crop by the wind storm at Ottawa in 1899, the average of three years only can be given for this farm. Those varieties on the other farms which have been tested only three years are so marked.

CENTRAL EXPERIMENTAL FARM, OTTAWA, ONT.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Arthur	41	22	7. Canadian Beauty	35	30
2. Macoun	39	10	8. Bedford	35	27
3. Kent	37	23	9. Creeper	35	22
4. Agnes	36	26	10. Duke	35	17
5. Mackay	36	15	11. Crown	35	15
6. Black-eyed Marrowfat	36	12	12. Paragon	34	17

An average crop of 36 bushels 32 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Crown	41	25	7. Carleton	30	46
2. Centennial	35	..	8. Prince	29	40
3. Pride	33	45	9. Lge White Marrowfat, 3 yrs	29	40
4. New Potter	32	55	10. Canadian Beauty	28	35
5. Black-eyed Marrowfat	32	50	11. Prince Albert	28	10
6. Duke	30	46	12. Paragon	28	6

An average crop of 32 bushels per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Pride	50	46	7. Kent	45	25
2. Mummy	48	36	8. Crown	45	20
3. New Potter	47	52	9. Trilby	44	35
4. Carleton	47	15	10. Black-eyed Marrowfat	44	18
5. White Wonder, 3 yrs	45	43	11. King, 3 yrs	43	10
6. Mackay	45	25	12. Golden Vine, 3 yrs	43	5

An average crop of 45 bushels 55 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Trilby	40	40	7. Prince Albert	34	57
2. Carleton	39	2	8. Centennial	34	5
3. Paragon	38	37	9. Perth, 3 yrs	33	46
4. Crown	38	30	10. Macoun	33	45
5. Archer, 3 yrs	35	36	11. Creeper	33	40
6. Duke	35	22	12. White Wonder, 3 yrs	33	36

An average crop of 35 bushels 58 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. King, 3 yrs	38	40	7. Arthur	29	35
2. Victoria, 3 yrs	34	46	8. Prussian Blue, 3 yrs	30	26
3. White Wonder, 3 yrs	34	26	9. Archer, 3 yrs	30	16
4. Bright, 3 yrs	33	23	10. Perth, 3 yrs	29	40
5. Vincent, 3 yrs	31	.	11. Creeper	29	40
6. Early Britain, 3 yrs	30	36	12. Bedford	29	25

An average crop of 31 bushels 54 lbs. per acre.

The twelve varieties of pease which have produced the largest crops for the past three or four years, taking the average of the results obtained at all the experimental farms, are :—

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Crown	36	56	7. Mummy	33	22
2. Carleton	35	43	8. Archer, 3 yrs	33	13
3. Pride	34	43	9. Trilby	33	10
4. New Potter	34	16	10. Duke	33	9
5. King, 3 yrs	34	6	11. Prince Albert	33	9
6. Paragon	33	26	12. Centennial	33	6

An average crop of 34 bushels 2 lbs. per acre.

FOUR AND FIVE YEARS' EXPERIENCE WITH VARIETIES OF INDIAN CORN.

(Where not otherwise marked, the figures given are the results of five years' tests.)

The six varieties of Indian corn which have averaged the heaviest crops at the several experimental farms during the past four or five years are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT.

	Per acre. Tons.	Lbs		Per acre. Tons.	Lbs.
1. Red Cob Ensilage	24	1,691	4. Thoroughbred White Flint	24	15
2. Giant Prolific Ensilage	24	493	5. Champion White Pearl	20	1,309
3. Selected Leaming, 4 yrs	24	194	6. Sanford	20	310

An average crop of 23 tons 2 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre. Tons.	Lbs		Per acre. Tons.	Lbs.
1. Thoroughbred White Flint	15	1,944	4. Canada White Flint	14	842
2. Red Cob Ensilage	15	688	5. Selected Leaming, 4 yrs	14	737
3. Sanford	15	588	6. Angel of Midnight	14	633

An average crop of 14 tons 1,905 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Angel of Midnight	21	1,626	4. Red Cob Ensilage	19	1,178
2. Longfellow	20	480	5. Champion White Pearl	19	742
3. Thoroughbred White Flint	19	1,838	6. Selected Leaming, 4 yrs	18	1,290

An average crop of 19 tons 1,859 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Giant Prolific Ensilage	11	1,138	4. Mamm. Eight-Rowed Flint	10	1,605
2. Sanford	11	444	5. Selected Leaming, 4 yrs.	10	1,466
3. Red Cob Ensilage	11	128	6. Champion White Pearl	10	1,382

An average crop of 11 tons 27 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre. Tons.	Lbs		Per acre. Tons.	Lbs
1. Red Cob Ensilage	24	1,529	4. Giant Prolific Ensilage	21	724
2. Selected Leaming, 4 yrs.	24	1,110	5. Pride of the North	20	617
3. King of the Earliest	21	1,052	6. Angel of Midnight	19	1,754

An average crop of 22 tons 131 lbs. per acre.

The six varieties of Indian corn which have produced the largest crops for the past four or five years, taking the average of the results obtained on all the experimental farms, are :—

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs
1. Red Cob Ensilage	19	243	4. Giant Prolific Ensilage	17	757
2. Selected Leaming, 4 yrs.	18	959	5. Angel of Midnight	16	1,695
3. Thoroughbred White Flint	17	1,544	6. Champion White Pearl	16	1,158

An average crop of 17 tons 1,392 lbs. per acre.

FOUR YEARS' EXPERIENCE WITH VARIETIES OF TURNIPS.

The six varieties of turnips which have averaged the heaviest crops at the several experimental farms during the past four years are the following :—

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT.

	Per acre. Tons.	Lbs		Per acre. Tons.	Lbs.
1. Selected Purple Top	37	703	4. Jumbo	33	1,292
2. Perfection Swede	35	1	5. Prize Winner	33	632
3. Mammoth Clyde	34	860	6. Carter's Elephant	33	550

An average crop of 34 tons 1,006 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Perfection Swede	33	1,641	4. Mammoth Clyde	31	202
2. Hartley's Bronze	32	937	5. Champion Purple Top	31	147
3. Selected Purple Top	32	886	6. Carter's Elephant	31	87

An average crop of 31 tons 1,983 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Selected Purple Top	27	1,506	4. Champion Purple Top	24	1,242
2. Hartley's Bronze	26	503	5. East Lothian	24	807
3. Perfection Swede	25	1,711	6. Skirving's	24	642

An average crop of 25 tons 1,068 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Hartley's Bronze	20	557	4. Skirving's	19	890
2. Selected Purple Top	20	284	5. Champion Purple Top	19	775
3. Perfection Swede	19	1,905	6. Mammoth Clyde	19	758

An average crop of 19 tons 1,528 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Bangholm Selected	51	369	4. East Lothian	43	1,114
2. Selected Purple Top	45	987	5. Giant King	42	1,807
3. Jumbo	43	1,615	6. Prize Winner	41	1,678

An average crop of 44 tons 1,595 lbs. per acre.

The six varieties of turnips which have produced the largest crops, taking the average of the results obtained on all the experimental farms for the past four years, are:—

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Selected Purple Top	32	1,272	4. East Lothian	29	1,847
2. Perfection Swede	31	526	5. Hartley's Bronze	29	995
3. Bangholm Selected	30	1,606	6. Jumbo	29	382

An average crop of 30 tons 1,104 lbs. per acre.

FOUR YEARS' EXPERIENCE WITH VARIETIES OF MANGELS.

The six varieties of mangels which have averaged the heaviest crops at the several experimental farms for the past four years are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Gate Post	38	615	4. Yellow Intermediate	33	1,223
2. Giant Yellow Intermediate	35	97	5. Giant Yellow Globe	33	288
3. Mammoth Long Red	34	887	6. Canadian Giant	31	1,930

An average crop of 34 tons 840 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Giant Yellow Intermediate	31	213	4. Gate Post	27	1,615
2. Yellow Intermediate	30	926	5. Warden Orange Globe	26	153
3. Giant Yellow Globe	28	1,113	6. Mammoth Long Red	25	1,820

An average crop of 28 tons 640 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Yellow Intermediate	39	677	4. Gate Post	37	1,817
2. Giant Yellow Intermediate	39	160	5. Giant Yellow Globe	35	636
3. Prize Mammoth Long Red	37	1,834	6. Mammoth Long Red	35	141

An average crop of 37 tons 877 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Yellow Intermediate	24	312	4. Gate Post	21	1,249
2. Champion Yellow Globe	21	1,560	5. Golden Fleshed Tankard	20	1,122
3. Giant Yellow Globe	21	1,461	6. Giant Yellow Intermediate	20	441

An average crop of 21 tons 1,357 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Yellow Intermediate	46	44	4. Giant Yellow Intermediate	34	1,138
2. Mammoth Long Red	36	361	5. Prize Mammoth Long Red	32	1,733
3. Gate Post	34	1,668	6. Canadian Giant	30	808

An average crop of 35 tons 1,625 lbs. per acre.

The six varieties of mangels which have produced the largest crops, taking the average of the results obtained at all the experimental farms, are:—

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Yellow Intermediate	34	1,438	4. Mammoth Long Red	30	431
2. Gate Post	32	193	5. Giant Yellow Globe	29	526
3. Giant Yellow Intermediate	32	10	6. Prize Mammoth Long Red	28	1,964

An average crop of 31 tons 427 lbs. per acre.

FOUR YEARS' EXPERIENCE WITH VARIETIES OF CARROTS.

The six varieties of carrots which have averaged the heaviest crops at the several experimental farms for the past four years are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Mamm. White Intermediate	28	100	4. Iverson's Champion	26	470
2. Giant White Vosges	26	1,098	5. Half Long White	24	1,348
3. Improved Short White	26	1,075	6. White Belgian	24	730

An average crop of 26 tons 137 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Half Long White	19	555	4. Improved Short White	18	1,222
2. Mamm. White Intermediate	18	1,591	5. Giant White Vosges	18	821
3. Iverson's Champion	18	1,461	6. Guerande or Oxheart	15	997

An average crop of 18 tons 441 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Iverson's Champion	15	140	4. Mamm. White Intermediate	14	1,177
2. Half Long White	14	1,645	5. Early Gem	14	655
3. Giant White Vosges	14	1,535	6. White Belgian	12	1,960

An average crop of 14 tons 852 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Half Long White	11	605	4. Mamm. White Intermediate	10	72
2. Improved Short White	11	291	5. Giant White Vosges	9	1,791
3. Iverson's Champion	10	1,927	6. White Belgian	9	1,239

An average crop of 10 tons 987 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Improved Short White	33	1,680	4. Yellow Intermediate	31	571
2. Half Long White	31	1,555	5. White Belgian	29	483
3. Giant White Vosges	31	1,060	6. Mamm. White Intermediate	28	1,967

An average crop of 31 tons 219 lbs. per acre.

The six varieties of carrots which have produced the largest crops, taking the average of the results obtained on all the experimental farms for the past four years, are:—

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Improved Short White	20	1,058	4. Mamm. White Intermediate	20	181
2. Half Long White	20	741	5. Iverson's Champion	19	1,955
3. Giant White Vosges	20	461	6. White Belgian	18	352

An average crop of 19 tons 1,791 lbs. per acre.

THREE YEARS' EXPERIENCE WITH VARIETIES OF SUGAR BEETS.

The four varieties of sugar beets which have averaged the heaviest crops at the several experimental farms for the past four years are the following:—

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Improved Imperial	21	1,688	3. Danish Improved	19	1,178
2. Wanzleben	21	313	4. Vilmorin's Improved	17	925

An average crop of 20 tons 26 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Red Top Sugar	24	133	3. Improved Imperial	20	313
2. Danish Improved	21	975	4. Wanzleben	19	1,021

An average crop of 21 tons 610 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Danish Improved	31	502	3. Red Top Sugar	27	1,638
2. Wanzleben	28	1,970	4. Vilmorin's Improved	26	392

An average crop of 28 tons 1,125 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Wanzleben	14	1,535	3. Red Top Sugar	13	1,731
2. Danish Improved	14	495	4. Improved Imperial	12	1,872

An average crop of 13 tons 1,908 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Improved Imperial	24	40	3. Red Top Sugar	23	705
2. Danish Improved	23	992	4. Vilmorin's Improved	22	1,694

An average crop of 23 tons 858 lbs. per acre.

The four varieties of sugar beets which have produced the largest crops, taking the average of the results obtained at all the experimental farms, are:—

	Per acre. Tons.	Lbs.		Per acre. Tons.	Lbs.
1. Danish Improved	22	28	3. Wanzleben	20	1,975
2. Red Top Sugar	21	593	4. Improved Imperial	20	1,848

An average crop of 21 tons 611 lbs. per acre.

The Vilmorin's Improved, the only other variety which has been tested for three years, has given an average crop of 19 tons 460 lbs.

FIVE YEARS' EXPERIENCE WITH VARIETIES OF POTATOES.

The twelve varieties of potatoes which have averaged the heaviest crops at the several experimental farms during the past five years are the following. (A few of the varieties which have been only four years under trial are so marked.)

CENTRAL EXPERIMENTAL FARM, OTTAWA., ONT.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Holborn Abundance	414	55	7. Carman No. 1	343	50
2. American Wonder	396	39	8. Early White Prize	342	3
3. Late Puritan	369	6	9. State of Maine	338	41
4. Everett	364	45	10. Early Norther	338	20
5. Empire State	349	56	11. Seattle, 4 yrs	336	26
6. Seedling No. 230, 4 yrs	349	48	12. Rochester Rose	335	48

An average crop of 356 bushels 41 lbs. per acre.

EXPERIMENTAL FARM FOR THE MARITIME PROVINCES, NAPPAN, N.S.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Seedling No. 230, 4 yrs	463	84	7. Pearce's Prize Winner	370	22
2. Irish Daisy	401	59	8. I. X. L.	366	30
3. Holborn Abundance	398	52	9. Great Divide	362	47
4. Reading Giant	393	4	10. Vanier	358	33
5. Carman No. 1	391	27	11. Clarke's No. 1	357	25
6. Pride of the Market	378	20	12. Dreer's Standard	353	29

An average crop of 383 bushels 6 lbs. per acre.

EXPERIMENTAL FARM FOR MANITOBA, BRANDON, MAN.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Irish Daisy	411	35	7. Chicago Market	378	35
2. Pearce's Prize Winner	387	45	8. Carman No. 1	375	28
3. Delaware	385	55	9. Great Divide	372	32
4. Late Puritan	385	44	10. Clarke's No. 1	370	20
5. Dreer's Standard	383	32	11. Empire State	369	25
6. Early Norther, 4 yrs	380	25	12. State of Maine	367	2

An average crop of 380 bushels 41 lbs. per acre.

EXPERIMENTAL FARM FOR THE NORTH-WEST TERRITORIES, INDIAN HEAD, N.W.T.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. American Giant	428	18	7. New Variety No. 1	366	1
2. Lee's Favourite	403	36	8. Northern Spy	365	43
3. American Wonder	389	4	9. Seedling No. 230, 4 yrs	362	58
4. Lizzie's Pride	368	48	10. Early Sunrise	360	30
5. Rochester Rose	368	22	11. Early White Prize	360	22
6. Brownell's Winner	367	..	12. Late Puritan	349	25

An average crop of 374 bushels 10 lbs. per acre.

EXPERIMENTAL FARM FOR BRITISH COLUMBIA, AGASSIZ, B.C.

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Dakota Red	383	52	7. Troy Seedling	346	22
2. Clay Rose	376	42	8. New Variety No. 1	343	34
3. Brownell's Winner	372	10	9. Lee's Favourite	337	26
4. Seedling No. 230, 4 yrs	367	45	10. Late Puritan	336	6
5. Irish Daisy	362	4	11. Empire State	325	..
6. Reading Giant	354	36	12. Rural Blush	322	..

An average crop of 352 bushels 18 lbs. per acre.

The twelve varieties of potatoes which have produced the largest crops, taking the average of the results obtained on all the experimental farms for the past five years, are:—

	Per acre. Bush.	Lbs.		Per acre. Bush.	Lbs.
1. Seedling No. 230, 4 yrs	368	58	7. Carman No. 1	339	59
2. Irish Daisy	365	45	8. State of Maine	336	23
3. American Giant	364	15	9. Clarke's No. 1	335	14
4. American Wonder	359	57	10. Clay Rose	334	21
5. Late Puritan	349	59	11. New Variety No. 1	333	48
6. Empire State	345	46	12. Dreer's Standard	333	45

An average crop of 347 bushels 21 lbs. per acre.

SUMMARY.

Amid the multitude of details given in this bulletin bearing on the relative productiveness of varieties, it is not practicable to summarize more than a few examples. No satisfactory conclusions on this subject can be reached from comparisons of the crops of varieties grown on the different experimental farms in any one year nor from comparisons of any one year with another, partly on account of the great differences in climate, the variations in season from year to year, and still further because many new varieties are introduced from time to time, all of which from the outset are placed in competition in the annual tests. It is only from results covering a series of years, with the *same varieties* under trial, that useful inferences can be drawn.

The average crops of oats and wheat for five years are taken as illustrations here, for the reason that they are the most important grain crops grown in Canada, and also because the list of varieties under test in both cases is large, thus affording greater opportunity for change in the relative position of the several sorts as to weight of crop from year to year. The number of varieties of oats which have been under test at all the experimental farms for five consecutive years is 41 and of spring wheat 31, and the results gived in this bulletin as to the 12 sorts which have given the largest average crops for the five years are necessarily limited to these examples. The average crop of these sorts for three years was given in 1897, for four years in 1898, and the results for five years will be found in the present issue. The twelve varieties of oats which have given the largest average crops for the periods named are here placed side by side, the different sorts being arranged in the order in which they have appeared each year, with the average yield in each case.

VARIETIES OF OATS TESTED FOR A SERIES OF YEARS.

Name of Variety.	1899. Average for 5 years. Per acre. Bush.	Lbs.	Name of Variety.	1898. Average for 4 years. Per acre. Bush.	Lbs.	Name of Variety.	1897. Average for 3 years. Per acre. Bush.	Lbs.
Banner	75	30	Banner	71	17	American Beauty	72	10
American Beauty	74	31	American Beauty	71	16	Banner	72	7
Columbus	71	23	Columbus	70	5	Columbus	70	15
Golden Giant	71	12	Golden Beauty	67	17	Golden Beauty	69	1
Bavarian	71	9	Bavarian	66	33	White Schonen	68	7
Golden Beauty	70	2	Holstein Prolific	66	18	Early Golden Prolific	67	26
Holstein Prolific	69	23	White Schonen	65	29	Holstein Prolific	67	18
Early Golden Prolific	69	4	Early Golden Prolific	65	27	Improved Ligowo	66	18
American Triumph	67	24	Wallis	65	16	White Russian	65	25
Abundance	67	24	Abundance	65	9	Wallis	65	18
White Schonen	67	24	Golden Gi	64	19	Bavarian	64	33
Wallis	67	23	White Rus	64	11	Early Gothland	64	22
Average yield	70	13	Average yield	67	4	Average yield	67	32

From these figures it will be seen that of the forty-one varieties of oats which have been tested for five consecutive years only *fifteen* of these have appeared among the best 12, either in the averages of 3, 4 or 5 years. *Nine* of the varieties have appeared each time in the best 12, and *eleven* of those which appeared in the list for 1898 appear also in that for 1899. Taking the list of 1899 and comparing it with 1898, the names are the same in both, with the single exception of American Triumph, which has replaced the White Russian. Comparing the list of the best 12 sorts in 1899 with those of 1897, in addition to the change referred to, there are two others. Golden Giant has taken the place of Improved Ligowo and Abundance that of Early Gothland.

These three varieties which have thus fallen out of the list of the best twelve within the three years named have not, however, lost much ground. They stand in the records of the average yields for five years in the following order:—

Early Gothland	66 bush.	26 lbs.	per acre.
White Russian	66 "	2 "	"
Improved Ligowo	64 "	30 "	"

The lowest of the three is only 1 bush. 27 lbs. less in average yield than the 12th in the present select list.

A comparison of the 31 varieties of spring wheat grown for five years shows very similar average results.

VARIETIES OF SPRING WHEAT TESTED FOR A SERIES OF YEARS.

Name of Variety.	1899. Average for 5 years. Per acre. Bush.	Lbs.	Name of Variety.	1898. Average for 4 years. Per acre. Bush.	Lbs.	Name of Variety.	1897. Average for 3 years. Per acre. Bush.	Lbs.
Preston	32	40	Preston	32	17	Preston	33	4
Wellman's Fife	32	12	Wellman's Fife	31	..	Monarch	31	2
Monarch	32	6	Monarch	30	58	Wellman's Fife	30	36
Goose	31	14	Percy	30	24	White Fife	30	25
White Fife	31	..	Red Fife	30	23	Rio Grande	30	23
Rio Grande	30	53	White Fife	30	20	Old Red River	30	17
White Connell	30	46	White Connell	30	19	Red Fife	30	9
Red Fife	30	42	Rio Grande	30	1	White Connell	30	6
Huron	30	31	Goose	29	58	Advance	30	..
White Russian	30	28	Red Fern	29	17	Goose	29	51
Pringle's Champlain	30	1	Old Red River	29	17	Red Fern	29	49
Red Fern	29	50	Advance	29	8	Alpha	29	37
Average yield	31	7	Average yield	30	17	Average yield	30	26

These figures show that of the 31 varieties of spring wheat tested for five consecutive years, *sixteen* have appeared in the lists of the best twelve in the averages of 3, 4 and 5 years. *Nine* of the varieties have appeared each time in the best 12. Comparing the list for 1899 with that for 1898 it will be seen that Huron, White Russian and Pringle's Champlain have replaced Percy, Advance and Old Red River, while a comparison of the results of 1899 with 1897 show that the varieties replaced that year were Advance, Old Red River and Alpha. Since Old Red River was dropped from the list in 1899 for several reasons, the present standing of the other varieties is all that can be given:—

Average Yields for Five Years.

Alpha	29 bush.	9 lbs.	per acre.
Advance	29 "	4 "	"
Percy	28 "	52 "	"

These have maintained their relative position fairly well, the lowest being only 58 lbs. per acre in average yield below the 12th in the select list.

In arranging these numerous plots each season no effort is made to give to any variety a specially good location, and since at several of the experimental farms the land often varies much in different parts of the same field, it seems quite remarkable that the results covering so long a period from tests of the same varieties in different climates have been so uniform in

character. The facts submitted appear to the writer to furnish very strong evidence in proof of the inherent productiveness of varieties. Further evidence of a similar character could be gathered from the results reported with other agricultural products, did space permit.

It is hoped that the facts which have been submitted here and elsewhere, will induce farmers everywhere to follow the example and teaching of the experimental farms. Pay increased attention to the choosing of the most promising sorts of seeds for sowing; to the selection of the very best quality of seed, remembering the great law in nature that "like produces like." To these precautions add a judicious rotation of crops, with periodical manuring and the ploughing under of green clover, a careful preparation of the soil and early sowing. With these duties faithfully discharged, the farmer may confidently anticipate good crops, provided the season is reasonably favourable. Were such practice to become general an era of unprecedented prosperity in agriculture might be confidently predicted.